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ABSTRACT

The paper presented in this three-part conference report trace the growth and development of distance education in the Asian and Pacific region. Part 1 provides a general review. Part 2 contains the following case studies: "Distance Education in India" (S. P. Mullick); "Distance Education in Indonesia" (Professor Setijadi); "Distance Education in Pakistan" (Shaukat Ali Siddiqui); "Distance Education in the Republic of Korea" (Kwon Soonchan and Chandong Kim); and "Distance Education in Thailand" (Iam Chaya-Ngam). The following country papers are included in part 3: "Distance Education in Australia" (Vernon White); "Distance Education in Bangladesh" (K. M. Sirajul Islam); "Distance Education in Bhutan" (Zangley Dukpa); "Distance Education in Burma" (Kyaw Sein); "Distance Education in Fiji" (Hari Ram); "Distance Education in Hong Kong" (Michelangelo Pagliari and John Anthony Frost); "Distance Education in Japan" (Yoshiya Abe); "Distance Education in Malaysia" (G. Dhanarajan); "Distance Education in New Zealand" (Douglas Gunn and Peter McMechan); "Distance Education in Papua New Guinea" (John Paul and Howard Van Trease); "Distance Education in the Philippines" (Remigio Romulo); and "Distance Education in Sri Lanka" (D.A. Kotelawe). (MN)

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Distance Education in Asia and the Pacific Volume II

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PROCEEDINGS OF THE REGIONAL SEMINAR ON DISTANCE EDUCATION

26 November - 3 December 1986
Bangkok, Thailand

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FOREWORD

The countries of Asia and the Pacific are engaged in exploring appropriate ways of tackling the urgent problem of educating their large and growing populations in relatively little time and with limited resources. The pressures on traditional educational institutions are growing, with the result that education is expensive and often inaccessible. Planners in these dynamic countries are therefore attempting to evolve policies which permit, firstly, equitable access to education; secondly, enrichment of the content of formal education to include more applied and employment-related courses; and thirdly, through continuing education, an upgrading of skills and improvement of the quality of life and human resources.

To encourage this amplification to take place, educationists have turned their attention to distance education methods. This is a novel concept which attempts to loosen the confines of traditional teaching requirements and allow larger sections of populations the benefit of education. One of the strategies of distance education is the increased use of communications technology to deliver learning materials to students. Educationists now acknowledge the liberating possibilities of the non-print media which have the potential to surmount physical obstacles as well as break the constraints of traditional classroom teaching. Such methods are altering time-honored concepts in the field of education.

Resistance to conceptual change in education is not inapposite. It introduces a healthy note of caution when even traditional educationists and planners in both industrialized and developing countries find themselves persuaded to support new methods of providing education to far greater numbers than has been possible through conventional methods. Most forcefully persuasive is the undesirable prospect of allowing large populations to remain unskilled and inadequately prepared to participate in important economic programs.

The resource papers presented at the Seminar held in Bangkok from 26 November to 3 December 1986 provide exhaustive information on every aspect of distance education in the Region. They are together, a valuable source of information for those wishing to address the problems of providing large-scale educational opportunities. The summary of the proceedings highlights the many advantages of distance education methods currently followed in the Region, while examining several problems which still have to be solved.

My thanks go to all participants and observers for their valuable contribution to the discussion of the Seminar. Their views and experience

enriched the proceedings. I also extend my thanks to all resource persons, namely, Dr. Ram Reddy, Prof. Takashi Sakamoto, Dr. Mohammad Selim, Prof. Ralph Smith, Mr. Mohan Sundara Rajan and Dr. James Taylor.

My special thanks go to Their Excellencies, Dr. Subin Pinkayan, Minister of University Affairs, Thailand and Dr. Supachai Panitchpakdi, Deputy Minister of Finance, Thailand, who kindly agreed to address the opening and closing sessions of the Seminar; the staff of Sukhothai Thammathirat Open University and particularly the Rector, Prof. Dr. Wichit Srisa-an who was also a resource person; his colleagues, namely, Dr. Pratya Vesarach, Dr. Iam Chaya-Ngam; and Dr. Tong-In Wangsorn; and also to Dr. Makaminan Makagiansar, Assistant Director General of UNESCO's Regional Office, Bangkok, for extending their cooperation in making the Seminar possible.

I should also like to thank Dr. Motilal Sharma who doubled as resource person and organizer, Mr. N. R. Collier and Mr. G.H.P.B. van der Linden who closely supervised the organization of the Seminar, Mrs. Cristina Gamboa and Mr. Manuel Perlas for assistance in coping with the numerous administrative matters, Mrs. Lena Acharya, who was the Rapporteur for the Seminar, and the secretarial support staff for their unflagging help before, during and after the Seminar.



S. V. S. JUNEJA
Director
Infrastructure Department

PREFACE

Large increases in population coupled with a growing awareness of the benefits of education are leading governments to explore the possibility of using alternative means to provide education on a large scale, particularly as conventional educational methods are becoming increasingly expensive. One such alternative that countries in the Region are considering is distance education. In the view of the Bank, this was an opportune time to bring together officials of the Bank's developing member countries who are, or are likely to be, involved in distance education operations, along with representatives of institutions which have had substantial experience in this field. Such a gathering, it was hoped, would encourage an exchange of ideas and help develop appropriate policies and project strategies.

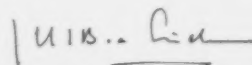
The eight-day Seminar on Distance Education was conducted in Bangkok from 26 November to 3 December 1986 at the Sukhothai Thammathirat Open University (STOU). STOU has been designated by UNESCO as a lead institution in Asia and the Pacific and has excellent staff, facilities and experience in hosting such international seminars. The STOU worked in close cooperation with the Bank and UNESCO, Bangkok, in the organization and management of the Seminar. The Seminar was attended by 40 participants from 14 developing member countries (Bhutan, Burma, Fiji, Hong Kong, India, Indonesia, Republic of Korea, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka and Thailand) and three other member countries of the Bank (Australia, Japan and New Zealand). The participants included policy-makers and technical experts who have executive or operational responsibility for distance education projects in both formal and non-formal sectors of education, and at all levels of education. During the Seminar, they were able to discuss their experience in distance education, compare strategies for distance education projects, develop models that are likely to be successful in their own environments, and exchange ideas on costs, management and other operational issues. The Seminar also provided an opportunity to Bank staff to become acquainted with this relatively new and rapidly developing field.

Eight resource papers were presented and discussed at plenary sessions in addition to five country case studies. Thirteen country papers were also circulated at the Seminar. These papers were used as reference materials in four workshops, which were charged with discussing detailed agenda relating to many of the issues raised at plenary sessions. The groups returned their considered opinions and findings to be incorporated into the general recommendations adopted at concluding plenary ses-

sions. Briefly, the themes included costs of distance education compared to those of conventional forms, the special organizational and training needs of distance education and the use of mass communications media for educational purposes.

The resource papers are presented in Volume I which also provides a Summary of the Proceedings, the Recommendations and the Resource Papers, Volume II presents the Country Papers and Case Studies. It is hoped that these two volumes will be of interest to those engaged in the task of providing better educational opportunities to the less-privileged.

The Education Division of the Bank takes particular pleasure in presenting this Report. It is hoped that the included Papers and Proceedings will be of value to those engaged in planning and management of distance education in developing countries, as they will, we know, be useful to multilateral and bilateral donors providing assistance to the education sector.



G.H.P.B. van der Linden
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PART I

INTRODUCTION

INTRODUCTION

Distance education continues to develop rapidly in the Asia and Pacific Region. The range and variety of institutions is wide. To cite a few examples: Australia, in addition to providing distance education programs at the primary and secondary levels to scattered communities throughout its vast expanse, provides programs in engineering technology aimed at developing technical manpower; most Australian distance education units are part of conventional educational institutions. India has the national satellite system for school, higher, adult and teacher education. It has one provincial open university and a newly established national open university. Besides these, the Universiti Sains in Malaysia, the Allama Iqbal Open University in Pakistan, the Open University of Sri Lanka, the University of the Air in Japan, are all seen as important institutions in the higher education systems of these countries. In Thailand, over five hundred thousand students are enrolled in institutions of distance education at university level. The cost of providing similar educational opportunities within the formal system for the large number of students enrolled in these distance education institutions would have been enormous and beyond the present means of most developing member countries (DMCs) of the Bank. In addition to these, there are many other countries where similar systems are either being considered or are already on stream.

The twelve country papers (Australia, Bangkok, Bhutan, Burma, Fiji, Hong Kong, Japan, Malaysia, New Zealand, Papua New Guinea, Philippines, Sri Lanka) and the case studies (India, Indonesia, Korea, Pakistan, Thailand) incorporated here, present a wide-angle view of the state of distance education in the Region. While there is great variety in the geographical, cultural, historical and economic backgrounds of the countries, the commonality lies in the large and youthful populations of the DMCs whose demands for education and employment can no longer be ignored. There is also the pressing need for skilled manpower for preparing Asia and the Pacific for a future in which modern technology will play a greater role. In the latter half of this century, the constraints of conventional education combined with the insufficiency of schools and colleges have prevented large sections of society from improving their educational and consequently, employment opportunities. Distance education offers to redress to some extent, this inequality.

The papers presented in this volume trace the growth and development of distance methods of teaching or learning and the establishment of distance education institutions. From correspondence courses in the early part of the century, to the post World War II introduction of radio

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lessons and forums, on to the present-day schools and universities of the air and open universities, the struggle has been to help more people to have greater access to learning.

Some of the case studies, such as the Indian one, examine the effectiveness of correspondence courses, which are large in number in that country, and underline the need for far greater educational opportunities than are available. An attempt is made in the study to determine what can go wrong with open schools and what the implications are of more sophisticated distance education programs. The question is implicit, how difficult will it be to make coordinated systems work in a large undertaking such as an open university? Some of these questions are answered in the paper on the Allama Iqbal Open University, Pakistan, and others still in the paper on Thailand's Sukhothai Thammathirat Open University (STOU). Thailand's open university is probably Asia's answer to the UK Open University. The report on the STOU will be of interest to most educationists in the Region. The Indonesian paper is a frank appraisal which does not gloss over the problems of coordinating delivery systems and using high technology in that country. This too, is a reality which must be examined dispassionately.

Island nations such as the Pacific ones of Fiji, Papua New Guinea, the Southeast Asian ones like the Philippines, Indonesia and Malaysia, have to overcome distances resulting from geographical separation of their territory as much as large countries like China, India and Australia have to tackle distances on their land mass. New technology will be needed to combat these problems. Asia is likely therefore, to be pushed rapidly into the communications satellite age if it is not to become the region with the largest number of illiterates as suggested in recent UNESCO surveys. These countries will have to use every alternative to make education widely available.

AUSTRALIA. Distance education started in Australia early this century with correspondence teaching for Primary and Secondary stage students in the outback. The Western Australia Correspondence School has been providing courses for primary to middle school students. Such schools were supplemented by schools of the air involving radio broadcasts. Partly as a result of the way Australia's population is dispersed several such schools developed, thus a centralized system was unlikely to fit the Australian background. Post-secondary education which included technical education also developed at about the same time. Correspondence and broadcast education were a part of the on-campus colleges, but the Isolated Students Matriculation Scheme provided written and audiovisual lessons to high school students. The Darling

Downs Institute, Queensland is a tertiary level institution. Thus a dispersed model of distance education was the result of Australian needs. The advantages and disadvantages of the "mixed mode" or the dispersed model are studied in the paper on Australia and may be useful to other Asian countries.

BANGLADESH. Bangladesh has at present undertaken to train a large number of teachers through distance methods. The ten conventional teacher training institutions are not enough to overcome the shortage of teachers that Bangladesh is experiencing. Bangladesh has started to use a media mix so that when distance education programs are extended there will be a core institute, the Bangladesh Institute of Distance Education (BIDE) which is already experienced.

BHUTAN. Bhutan is now considering distance education methods for its formal education strategy, many of its teachers have already been using the Indian distance education programs. Even this proxy use of distance education methods has enriched Bhutan's experience and it has realized the need for institutional recognition for distance education projects.

BURMA. Burma has university correspondence courses as well as non-formal and developmental programs through the broadcast media.

FIJI. The University of the South Pacific (USP) has the Extension Services unit which operates in the distance education mode. It started with a Diploma in Education and was soon under pressure to extend its range. Degree courses and vocational courses were gradually included. The USP has also been able to use the ATS satellite and has experience in educational media use. Fiji and other countries have put these facilities to good use. The Government of Fiji now expects to introduce TV in general and educational TV in particular.

HONG KONG. To raise the general standard of education to those acceptable in Europe, Hong Kong educationists found they would have to extend opportunities to people who in earlier period were unable to educate themselves to the desired level, and also to those who wish to upgrade their skills. Distance education methods, because of flexibility in the modular form of courses, were admirably suited for the second-chance students.

INDIA. India launched a massive non-formal education scheme to help

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students whose income-generating activities interfere with their education. At the primary level, a project named Comprehensive Access to Primary Education (CAPE) seeks to non-formalize teaching in terms of content and methodology. An Open School has also been started for learners at the secondary level.

Rural radio forums to teach agriculture, health, literacy, education and other aspects of social development were established on a pilot basis in the 1950s. Both radio and television have been tested for the instruction of adult learners. The Satellite Instructional Television Experiment (SITE) project provided evening programs for adult education and community development.

India started the use of radio in schools in 1950 and that of television in 1962. The telecasts support classroom teaching in selected subjects. The SITE provided two and one-half hours for education every day for primary education. The lessons were both self-contained and in series. They were motivational and not syllabus-oriented.

Correspondence courses at secondary level started in 1965. At present, there are four Boards of Secondary Education offering correspondence courses. In Delhi, the Open School has been started for secondary stage students who comprise a significant number of girls and women. The Open School has elements of broadcast teaching through television.

Distance education at the tertiary level started with the introduction of correspondence courses at Delhi University in 1962. Today about 25 universities offer correspondence courses both at graduate and post-graduate levels. Teaching is still done primarily through printed material, although some institutions, such as the Institute of Correspondence in Patiala and Chandigarh, do use radio broadcasts and other media. There are also personal contact programs to supplement correspondence education.

The first open university in India was established by the state government of Andhra Pradesh in 1982. No formal educational qualifications are prescribed; anyone can enroll for an undergraduate course after passing the entrance test administered by the University. The only exception is made in the case of the B.Sc. course, for which some science background is required.

The Indira Gandhi National Open University has the status of a university grants commission which gives it independence and a certain control over other open universities which may subsequently be launched. While it is still in a developing stage, its scope and influence are bound to be very far-reaching.

INDONESIA. The Pendidikan Anak Oleh Masyarakat, Orangtuadan, Guru (PAMONG), or Instructional Management by Parents, Community and Teachers schools have been developed in Indonesia to provide primary education in an informal way for those who cannot go to ordinary primary schools. The use of printed self-instructional material in the PAMONG system makes the learning process flexible in terms of time and place of learning. The four models of the system are as under:

- The Community Learning Centre model uses self-instructional material and is a sort of school extension in private homes.
- The Small-School model has three teachers who supervise 75 students. While the teacher works with the lower classes, the grade IV, V and VI students are assigned self-instructional material.
- The Primary-School model remains a conventional school, but at the same time functions as the "mother school" for several Learning Posts.
- The Kejar-Patjar model or the Learning Group, Learning Post model combines formal and non-formal systems. It provides basic literacy and numeracy skills, combined with functional learning geared towards rural life. After finishing 20 learning packages, which normally takes one or two years, the students may take a primary school equivalency examination. A diploma allows them to go to secondary school.

The Open Junior High School provides instruction through programmed printed materials, audiocassettes, slides, and radio. Each one of these schools is attached to a regular junior high school.

An Open University is now being established in Jakarta. It is planned that some 150,000 students will be accommodated by the new system. Courses of study will include a program to upgrade university teachers and diploma program for secondary school teachers.

To overcome Indonesia's problem of shortage of teachers, the Government has had to start a crash program to recruit teachers without qualifications. In-service training for teachers was, therefore, considered an urgent need of the country. The principal device used for in-service education is radio, as it fits the country's current stage of development. Radio is inexpensive and educationally effective. The Centre of Technology and Communication of Education and Culture is responsible for planning, facilitating and distributing programs. In 1971, the training of personnel began along with research on audience, hardware and management.

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JAPAN. Correspondence education at secondary stage was introduced in Japan in 1948. The Japanese Broadcasting Corporation (Nippon Hoso Kyokai-NHK) started the radio and television programs for school students in 1953 and 1960, respectively. By 1963, a majority of the subjects of the curriculum were covered, the same subjects being frequently offered in both media.

In 1967, the NHK started the internationally famous Broadcasting Correspondence High School and further enriched the program offering. Distance education at college and university level began in Japan in the late forties. Presently, about 20 universities and more than 10 junior colleges offer correspondence courses. Under this system, students receive textbooks, student guides and assignments and submit the work to their tutors for their comments. Face-to-face contacts are not compulsory; instead there are forms of unofficial contact and two to three-week summer schools, in addition to the credit units for which residence is compulsory. The Japanese Broadcasting Corporation programs are approved as part of college courses on radio and television.

While Japan would be expected to use a great deal of high technology in its educational programs, it may come as a surprise to know that its distance education base also rests on correspondence schools. The High School correspondence courses started in the post-war era, while the broadcast and correspondence school (NHK) was established in 1962. Later, the University of the Air, commercial education television, closed circuit methods of interaction and the use of microcomputers, teleconference in video disks and cassettes and now optical fiber have expanded Japan's educational programs from the conventional to life-long education for every type of group ranging from technical and vocational to women's groups.

KOREA. The Korean Educational Development Institute (KEDI) started radio broadcasts for elementary schools in 1974. The number of programs produced every year is about 3,000. Radio broadcasting is used more in rural areas than in cities and towns. Some schools use taped programs, others use the amplifier system so that the entire grade may listen to a program. Reports show that radio instruction helps promote student ability in self-directed learning, classroom discussion, and listening and note-taking.

An Air and Correspondence High School (ACHS) was founded in 1974. Now a system of 48 high schools, the ACHS has 35,000 students. About 75 per cent of ACHS students are workers and their economic status is low. Instruction is largely provided through self-learning materials and radio. The students receive textbooks, a guidebook for radio

instruction and monthly self-learning modules. Each Air and Correspondence High School is part of a regular high school to make use of facilities and personnel at low cost. The students attend their nearby school every other Sunday where regular high school teachers provide instruction for extra pay.

The Korea Air and Correspondence University (KACU) was founded in 1972 as a two-year junior college. As part of the system of lifelong education, the KACU is designed to improve national educational standards and to produce trained manpower for the development of the country. The student population now amounts to approximately 120,000. Candidates for admission are selected by a computer lottery.

MALAYSIA. The Ministry of Information in Malaysia produces TV and radio programs of general interest on topics such as agriculture, housecraft and Islamic Knowledge, etc. Distance education has existed for some time in Malaysia in the form of correspondence courses run by private enterprises. Since 98 per cent of the age group go to primary schools, the Government does not consider it necessary to start distance education at this level.

The Educational Media Service Division (EMS) provides radio and TV programs supplementing classroom instruction at secondary level. They cover subjects like science, mathematics, etc. and develop civic consciousness.

The University of Science in Penang provides off-campus programs. The courses that are offered are of the same standard as those for full-time students, although the teaching methods are different. Off-campus instruction is done mainly through printed materials, for certain courses, audiocassettes are provided. Slides are also available at regional learning center. Only courses in the Humanities and Social Sciences use radio. Broadcasts are limited to 30 minutes weekly. At the regional centers, first year students attend weekend tutorials conducted by part-time lecturers.

Qualified teachers are sent for in-service training for one year at the Specialist Teacher Training College. Their course is devoted to in-depth study of library management, media technology and related subjects. Graduates teaching at the secondary level can take a one year in-service course at the University of Science in Penang. Graduates of this course receive a Diploma in Educational Technology. In four Malaysian states, Educational Resource Centres have been created to encourage interaction among teachers and suggestions for the improvement of education. Teachers are also exposed to the management of technology.

Finally, Educational TV staff are trying to make programs more

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interesting. Trainees have been sent to study animation in Japan and the United Kingdom; others are trained locally at the National Broadcasting Training Centre.

Malaysia has opted for a central autonomous authority for distance education, the Universiti Sains Malaysia. The instructional media include print, radio, audio and videocassettes. Its students' ages range from 20 to about 35 years. Obviously, the courses attract people who are already at work or who wish to improve their educational status. Malaysia plans to extend its tertiary education program through distance education.

NEW ZEALAND. The Continuing Education Unit of Radio New Zealand broadcasts programs in short series on matters of public interest, the Workers Educational Association and Trade Union Postal Education Service. The Extension Department of Otago University operates a provincial outreach program of studies using telephone tutorials.

The New Zealand Correspondence School (NZCS) has been providing education at primary and secondary levels since 1922. At present, about 9,000 school-age children and also 11,000 adults are enrolled in this school. Although written materials are the main teaching resources, cassette tapes and regular radio programs are also used to supplement them. Some television programs have also been recently produced. Telephone contact is also used, whenever necessary.

University distance education is provided by Massey University's Centre for University Extramural Studies (CUES). Massey, with around 5,000 internal students, has a wide range of degrees and diplomas. The main method of distance education is correspondence, including audiocassettes. Each course requires a short on-campus or off-campus contact period. Radio and television are not used, mainly because many courses have too few students to warrant airtime. The Massey University represents a mixed mode of institutions.

The Advanced Studies for Teachers Unit (ASTU) provides in-service correspondence courses for some untrained teachers seeking initial qualification, as well as for trained teachers.

New Zealand's correspondence and distance education programs are well established. Apart from its experience in the production of print-based instructional material, New Zealand's extension of the study approach to distance education should offer very useful lessons for many of the Bank's DMCs.

PAKISTAN. Pakistani efforts in extending education to the deprived section of its population culminated in the setting up of the Allama Iqbal Open University (AIOU). The AIOU uses a multimedia delivery system although the main medium is print. During each semester, approximately 300 radio programs and 75 television programs are produced. These are subsidized by the Pakistan Broadcasting and Television Corporations.

The Primary Teachers' Orientation Course is the largest of its several vocational programs. There are a number of other degree and non-degree courses. There is an understanding of the need to set up training courses for specialization in distance education.

PAPUA NEW GUINEA. In Papua New Guinea, the College of External Studies (COES) has been providing secondary level education through correspondence since 1956. Until 1964, the College used courses prepared in Queensland, Australia. In 1980, the functions of the College were streamlined still more clearly. The COES has 23 professional and 48 ancillary staff members. The main medium is print supported by a weekly broadcast program in English.

PHILIPPINES. The span in time of formal education in the Philippines, as in Sri Lanka, is often the envy of other less fortunate countries. In distance education, too, the Philippines has considerable experience. The School Broadcast program was set up in the 1950s for primary and secondary schools and teacher training institutions. The concept of continuing education, too, has been introduced by the Continuing Learning Delivery System of the Bureau of Continuing Education. The Balik-Paaralan scheme bridges the gap between formal and non-formal education and is an innovation which could be widely used in the Region. Programs include food production, energy conservation and entrepreneurship. There is also the Self-Learning Integrated Modules for Mothers (SLIMM) which helps mothers to prepare their children to enter primary school. A test sample indicated that these courses have been effective. The Continuing Education for Teachers and the University of Mindanao on the Air help to upgrade the knowledge of teachers.

SRI LANKA. Sri Lanka has a long record of literacy thus distance education program should have a good start. While distance methods through print and radio have been in use for the last 20 years, the Open University of Sri Lanka has only recently been set up. Training for personnel has begun. Foundation courses for students not prepared for

tertiary level education have been started. The senior secondary level students are already familiar with television-aided learning in certain subjects such as science and mathematics. Schools also use TV as an aid to instruction. Untrained teachers have been a problem in Sri Lanka for a long time. In 1972 a Correspondence Teachers Education unit was started.

THAILAND. Thailand's National Educational Radio Network reserves time for non-formal educational broadcasts for farmers, non-formal students and health programs for the general public. A Radio Correspondence Programme (RCP) broadcasts include literacy, agriculture and special interests.

In Thailand, the Ministry of Education has had radio programs for schools since 1958. A Centre for Educational Technology was set up in 1982 for this purpose.

With World Bank advice and funding, in 1978-79, the decision was made to develop a National Educational Radio Network.

For secondary students, broadcasts are limited to English language and educational guidance. With the small number of secondary schools in the country (only about 2,000) the use of radio is not considered cost-effective, taped cassettes are used instead. Training materials for teachers using the radio broadcasts are also used.

Sukhothai Thammathirat, Thailand's Open University accepted its first students in 1980. By the end of 1983, the University had admitted a total of around 200,000 students. Admission to the University is completely open, with no entrance examination. Approximately 90 per cent of the students are working adults, the remainder are recent graduates of secondary schools.

Printed self-instructional course materials, accompanied by audio-cassettes, constitute the principal medium of instruction. These are supplemented by radio and television programs. Tutorial sessions are held at study centers in every province.

This volume sets out in frank detail the experiments made, the first steps taken and some of the successes achieved in the efforts of these countries to establish distance education in its own right. It complements the first volume, being a record of experiments worked out on the ground and highlights the present status of distance education in the Region.

PART II

COUNTRY CASE STUDIES

Distance Education in India

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INTRODUCTION

A. Land and the People

India is the seventh largest country in the world. It covers an area of 3,287,782 sq km between latitudes 8°4' and 37°6' north and longitudes 68°7' and 97°25' east and measures 3,214 km from north to south between extreme latitudes and 2,933 km from east to west between extreme longitudes. It has a land frontier of about 15,200 km and a coastline of about 6,100 km.

The census in India is taken every ten years. According to the last census in 1981, the total population was 685.18 million. The growth rate during 1971-81 was 2.25 per cent and if it continues, the population of India will be 858 million by 1991 and 1,074 million by 2001.

B. Government

India is a union of 23 states and eight union territories as shown in Appendix B. It has parliamentary form of Government at the Centre and the States and Union Territories. It has a written constitution which provides for division of powers. For this purpose three lists have been drawn up, viz. Union list, State list and concurrent list. The Central Government is concerned with subjects specified in the Union list like Defense, Foreign Affairs, Railways, etc. The State Governments are concerned with subjects specified in the State list like Law and Order, Police, Health and Sanitation, etc. The Central and State Governments are jointly concerned with subjects specified in the concurrent list like Education, Economic and Social Planning, Vocational and Technical Training, newspapers, books and printing presses, Agriculture, etc. Since Education is in the concurrent list, the Central Government and the State Governments are equal partners in framing educational policies and their implementation. However, the Central Government is supreme over states in enacting education laws. The Central Government can implement directly any policy decision through a network of organizations like the Central Advisory Board of Education, the University Grants Commission, the National Council of Educational Research and Training, the National Institute of Educational Planning and Administration, the Council of Scientific and Industrial Research, the Indian Council of Medical Research, the Indira Gandhi National Open University, the Directorate of Adult Education, etc. State Governments also implement educational policies through similar organizations like State Boards of Primary and Secondary Education, State Councils of

Educational Research and Training, Directorates of Public Instruction, State Universities and Institutes, etc.

C. Educational System

India has achieved a common structure of education throughout the country. This requires ten years of school, plus two years of high school equivalent and three years of a college degree course (10+2+3). In the first ten years, efforts are being made to move towards uniformity in the following three stages:

Age	Stage	Class
6-11	Primary	I-V
11-14	Upper Primary	VI-VIII
14-16	Secondary	IX-X

All efforts are being made to achieve universalization of education until the age of 14 years or class VIII. Education is free and compulsory in all the states until class V. It is free and compulsory up to class VIII in many states; for girls, it is free up to class VIII in many states. The number of Primary, Upper Primary and Secondary Schools enrollments and trained and untrained teachers in these schools as of September 1983 is given in Appendix C. Non-formal education centers have also been opened for the education of out-of-school children at the Primary and Upper Primary stage.

Institutions of general and professional technical nature are mentioned below:

- (i) General Education - Arts, Science and Commerce
- (ii) Professional/Technical
 - (a) Engineering/Technology
 - (b) Medicine
 - (c) Veterinary Science
 - (d) Law
 - (e) Agriculture
 - (f) Education
 - (g) Oriental Learning
 - (h) Music/Fine Arts

The number of these institutes and enrollment is shown in Appendix E.

The structural layout of the educational system is given in Appendix F. The formal system is shown class-wise. The average age of

the learners for different classes is also given at the bottom. The non-formal education mode has been implemented since 1975 at the Primary and Upper Primary at NF Learning Centres and at Secondary level through Open School since 1979. Since there are no classes in this mode, only horizontal bars equivalent to formal schooling have been depicted in the chart in Appendix F.

D. Educational Development

The goal of universalization to be attained by 1960 is still distant. The dropout rate in classes I-VIII is above 75 per cent. This rate is much higher among girls and other deprived sections of society.¹

Not only has the growth rate of schools been lower than the enrollments but their physical conditions have been deplorable. According to the All-India Educational Survey of 1978, many primary and middle schools do not even have basic amenities. In so far as primary schools are concerned, 9 per cent had no buildings whatsoever; 41.5 per cent had no blackboards; 72 per cent had no library facilities; and about 53 per cent had no playgrounds. In the rural areas, 70 per cent of middle, 27 per cent of secondary and 10 per cent of higher secondary schools had no lavatory facilities.

Vocationalization in the higher secondary stage was a major plank of the education policy of 1968. Fifty per cent of the students at the +2 or secondary stage were to go into the Vocational stream. The actual figure is too insignificant to deserve mention. In fact, it is less than 2 per cent.²

The most disquieting feature of secondary education is that, even after eight, ten or 12 years of schooling, substantial numbers of pupils do not acquire the capacity to understand their physical, cultural or socioeconomic environment. The interface between education and the job market is characterized by lack of complementarity. Jobs requiring general education are not increasing at the same rate as the availability of manpower. On the other hand, for many jobs requiring technical competence and manual skills, appropriately trained manpower is not available in sufficient number.³

Similar conclusions have been reached in respect of higher and technical education. As regards higher education, it is stated that "the quality and employability of college graduates is affected because arts

¹ *Challenge of Education - A Policy Perspective* (Summary), Ministry of Education, 1985, p. 5.

² Calculation based on statistics available in *Studies in Educational Statistics*, No. 1, Ministry of Education, 1985.

³ *Challenge of Education - A Policy Perspective* (Summary), Ministry of Education, 1985.

22 *Distance Education*

and humanities are offered as unilinear programs of study unrelated to requirements of real life and science courses are designed essentially to explain concepts without supportive arrangements in the form of laboratory apparatus, kits, etc." Regarding technical education, "this system is now facing serious problems of obsolescence of machinery and equipment and the lack of wherewithal for research and training in respect of new technologies."⁴

Further, there are wide disparities in the system of education from the point of access, equity and impact. "Even though rural areas account for three-fourths of the population, they get much less of the allocation for education. While the well-to-do, who have access to privately managed 'quality' institutions located in urban areas, take away the lion's share of unreserved seats in professional institutions, children of rural areas are put to a great disadvantage because of the relatively poor quality of rural schools."⁵

E. Distance Education in the New Education Policy

The New Education Policy (1986) redefines the role of education as a vehicle of human resource development in the country, so as to prepare the country to meet the challenges of the next century.

F. The New Policy (1986)

Among the new approaches and innovations that have gained great acceptance in recent times is distance education. It began as a movement of home study, correspondence courses in the 60s, evolved into a larger concept of distance education in the 70s and to open learning systems in the 80s. The New Education Policy states:⁶

Para 3.11 Lifelong education is a cherished goal of the educational process. This presupposes universal literacy. Opportunities will be provided to the youth, housewives, agricultural and industrial workers, and professionals to continue the education of their choice at the pace suited to them. The future thrust will be in the direction of open and distance learning.

Para 4.13 A vast program of adult and continuing education will

⁴ *Ibid.*, p. 6.

⁵ *Ibid.*, p. 7.

⁶ *National Policy on Education - 1986*, Ministry of Human Resource Development, May 1986, pp. 15-16.

- be implemented through various ways and channels, including . . . (g) programs of distance learning.
- Para 5.35 The Open University system has been initiated in order to augment opportunities for higher education and as an instrument of democratizing education.
- Para 5.36 The Indira Gandhi Open University established in 1985 in fulfillment of these objectives will be strengthened.
- Para 5.37 This powerful instrument will have to be developed with care and extended with caution.
- Para 6.6 In view of the present rigid entry requirement to formal courses restricting the access of a large segment of people to technical and managerial education, programs through a distance-learning process, including use of the mass media, will be offered. Technical and management education programs, including education in polytechnics, will also be a flexible modular pattern based on credits with provision for multipoint entry. A strong guidance and counselling service will be provided.
- Para 8.10 Modern communication technologies have the potential to bypass several stages and sequences in the process of development encountered in earlier decades. Both the constraints of time and distance at once become manageable. In order to avoid structural dualism, modern educational technology must reach out to the most distant areas and the most deprived sections of beneficiaries simultaneously with the areas of comparative affluence and ready availability.

DEVELOPMENT OF DISTANCE EDUCATION

A. Historical Perspective

After Independence, many steps were taken to expand education. Introduction of correspondence courses was one such step. A scheme of correspondence education was included in the Third Five-Year Plan (1960-65). An Expert Committee was appointed in March 1961 to work out the details. The then Chairman of the University Grants Commission, Dr. D.S. Kothari was appointed Chairman of the Committee. The Committee suggested that as correspondence courses offer more flexi-

bility, they may be introduced in higher education.⁷ It was realized that correspondence courses would help in expanding and equalizing educational opportunities.

By 1980, there were 25 universities offering correspondence courses at the tertiary level and five Boards of Secondary Education providing correspondence courses at the school level. The percentage of correspondence course students at the tertiary level to the regular student was about 4 per cent and that of the school level was only 0.25 per cent.

B. Towards Open-Learning Institutes

The idea of an open-learning system had caught the imagination of educationists. A few universities had liberalized their mode of functioning. Open-admission policy was one feature which was adopted early by the states. Today, Mysore does not stipulate any eligibility qualification except an age restriction for enrolling into undergraduate and post-graduate courses. The SNDT Women's University, Bombay, admits women without any previous schooling to join B.A. and B.Com⁸ courses on the basis of an entrance test. Madurai-Kamraj organizes Introductory, Pre-Foundation and Foundation Courses to prepare all those without formal education to the undergraduate courses. A pass in the two-year Foundation Course is necessary to gain admission into its degree course. Andhra has not provided any formal academic qualifications for granting admission to Bachelor of Arts and Bachelor of Commerce degree courses. It holds an entrance test for granting admission. Annamalai also follows a similar practice.

However, the debate on Open Universities at National and State levels continued till the early 80s. The Government of Andhra Pradesh in 1982 decided to establish an Open University to provide "access to higher education to the adult population of the State, for upgrading their functional capacities and improving quality of their life in the context of broader social and political objectives of equalization of educational opportunities and the emergence of a new concept of lifelong education".

The Indira Gandhi National Open University was formally established by an Act of Parliament in 1985 for the Introduction and Promotion of Open University and Distance Education systems in the educational pattern of the country and for coordination and determina-

⁷ Report of the Expert Committee on Correspondence Courses and Evening Colleges, Ministry of Education, New Delhi, 1963.

⁸ For abbreviations, see Appendix N.

tion of standards in such systems. A synopsis on this University is given in Appendix G.

A working group was appointed in 1974 by the NCERT to examine the setting up of an Open School in Delhi. In 1978, the Central Board of Secondary Education (CBSE), Centre for Educational Technology (CET) and NCERT organized an international seminar on Open School. In the light of the recommendations in the Seminar, the CBSE set up an Open School in 1979 at the secondary level for the learners age 14 and above, who for a number of reasons, were unable to continue their studies in the formal schools. This school is now offering bridging course for those whose achievement level corresponds to classes VII to VIII. After completing this course the students are admitted to the secondary level course leading to the class X certificate. It also plans Senior Secondary Level courses (XI-XII) and Technical Vocational and Life Enrichment courses.

C. Present Position

By now, five boards of secondary education offer correspondence courses to classes IX-XII. They follow the same courses as are prescribed for the formal school children and hold common examination for all the children. An open school provides a need-based, flexible curriculum to out-of-school children above the age of 14 since 1979.

Thirty-two universities are providing scores of courses at undergraduate, graduate and post-graduate levels. The details of these institutes and their courses are given in Appendix H. In addition to the above-mentioned institutes, the Andhra Pradesh Open University and the Indira Gandhi National Open University have been functioning since 1982 and 1985, respectively.

CORRESPONDENCE COURSES AT SCHOOL LEVEL

The idea to start correspondence courses at the school level originated in 1964 when the Conference of Boards of Secondary Education in India recommended that the Boards of Secondary Education should start correspondence courses to improve the academic standards of private students. As a consequence, the Madhya Pradesh Board of Secondary Education started a correspondence course for intermediate students in 1965. The Patrachar Vidyalaya, Delhi started in 1968. The Boards of Secondary Education, Rajasthan, Orissa and Uttar Pradesh are the other institutions which are offering correspondence education

**Table 1: Institutes of Correspondence Courses at School Level,
Subject Areas, Course Units and Enrollments in 1985**

S. No.	Institutes	Class Levels	Subject Areas	Course Units	Enrollment in 1985
1.	Board of Secondary Education, Bhopal	XII	Oriya, English, Hindi, Urdu, History, Pol. Science, Geography, Economics, Commerce, Accountancy, Mathematics, Physics, Chemistry, Biology	Two papers in languages and three papers in any group - Arts - Commerce - Science	17,027
2.	Pattrachar Vidyalaya, Delhi	X	English, Hindi, Sanskrit, Urdu, History, Civics, Geography, Mathematics, Science	Two papers in languages and four other subjects	5,473
		XII	English, Hindi, Sanskrit, Urdu, Regional language, History, Pol. Science, Economics, Geography, Mathematics, Commerce, Accountancy & Insurance, Science	Two papers in languages and three papers in any group - Arts - Commerce - Science	10,450
3.	Board of Secondary Education, Ajmer	XII	English, Hindi, Advance Hindi, Civics, Economics, History, Geography, Commercial Geography,	Two papers in languages and three papers in any group - Arts - Commerce	9,900

			Commerce, Bookkeeping, Accountancy, Banking, Physics, Chemistry, Mathematics	– Science	
4.	Board of Secondary Education, Cuttack	X	English, Oriya, Hindi, Bengali, History, Civics, Geography, Regional language, Sanskrit	Oriya and one language compulsory and three optional subjects	5,050
5.	Institute of Correspondence Education, Allahabad	XII	Literary Hindi, Sanskrit, Urdu, English, History, Civics, Geography, Economics, Home Science, Sociology, Drawing, Music (instrumental), Education	Two language papers and three optional	3,520
6.	Open School Delhi	VIII	Bridge Course: English, Hindi, Mathematics, Science, Social Sciences	All papers (it is only a preparatory course for out-of-school children to gain admission in Class X course)	1,953
		X	Hindi, English, Mathematics, Social Science, Economics, Commerce, Home Science (with practicals), Science (with practicals, Science (without practicals), Typewriting (Hindi), Typewriting (English)	At least one language and any other four papers	9,500

for private candidates.⁹ An Open School, Delhi has also been established since 1979. The first five institutes follow the same syllabi as are prescribed by the respective Boards. The Open School, however, aims to provide relevance based on flexible courses and examinations. These institutes provide education up to the level of classes X and XII in the subject areas as shown in Table 1. The enrollment in various institutes in different levels is also shown in this table.

It will be noticed that all the institutes at S. Nos. 1-5 in Table 1 follow the same scheme of studies and syllabi as are prescribed by the Secondary Boards in respective states. Open School, Delhi has however developed its own syllabi. Nevertheless, all the syllabi at class X or class XII cover similar content areas in Arts, Commerce and Sciences. Thus there is enormous duplication of effort in the development of some courses in different parts of the country.

The detailed working of these institutes is described in Appendix I. A few studies have been done on the working of these institutes. For example, the Central Institute of Educational Technology (CIET) has conducted surveys of the correspondence education programs of the Patrachar Vidyalaya, Delhi (Jagdish Singh, 1981)¹⁰ and the Board of Secondary Education, Ajmer (Jagdish Singh, 1983).¹¹ The Open School has also conducted a study on the profiles of students in correspondence institutions at school level and their reactions towards various subsystems of Correspondence Education (Dewal, 1983).¹² The Institute of Correspondence Education, U.P. Allahabad has also conducted a study on the activities of the Institute of Correspondence Education, Allahabad, Uttar Pradesh (Pandey, 1985).¹³

A. Enrollment

A quick look at the correspondence school profile shows that the correspondence institutions are not catering to working adults but to school dropouts. The total enrollment at the Secondary and Senior Secondary stage is 62,962 which is just 0.31 per cent of the total enrollment of 17 million at this stage. In the study conducted by the

⁹ Dewal, O.S., *Profile of Registrants, An Enquiry into Variables Relating to Students of Correspondence Institutions at the Secondary Level*, Open School, New Delhi, 1982.

¹⁰ Singh, Jagdish, *A Study of Correspondence Education Programme of the Patrachar Vidyalaya*, Delhi, CIET, 1981.

¹¹ Singh, Jagdish, *A Study of Correspondence Education Programme of the Board of Secondary Education*, Rajasthan, Ajmer, CIET, 1983.

¹² Dewal, O.S., *Profile of Registrants, An Enquiry into Variables Relating to Students of Correspondence Institutions at the Secondary Level*, Open School, New Delhi, 1982.

¹³ Pandey, M.P., *A Study on the Activities of Institute of Correspondence Education*, Uttar Pradesh, Allahabad, presented in the National Training Workshop on Distance Education, 1985.

Open School (Dewal, 1983),¹⁴ it was found that the percentage of female students was 13.3 per cent and the percentages of SC and ST candidates were 7.8 per cent. These percentages are much lower than those of students in the formal systems which are 30 per cent, 27.4 per cent and 18.2 per cent, respectively. Most of the students belong to the age group 18-20. The percentage of students in the age range 30 and above is only 8.5 per cent.

B. Courses

All the five boards at Delhi, Allahabad, Ajmer, Bhopal and Cuttack follow the scheme of studies and syllabi prescribed by the Secondary Boards of Education in the respective states. The purpose of all the institutes is to improve the result of private candidates. The Open School, Delhi has, however, developed its own courses and a flexible scheme of studies.

C. Fees

Fees are a major source of income. The fees charged by different institutes are as follows:

Institute	Fees per annum
1. Bhopal	Rs250 and concession as per Board's rules
2. Allahabad	Rs250 and Rs150 S/C, S/T
3. Orissa	Rs200 and concessions to specified categories
4. Ajmer	Rs245 and concessions to specified categories
5. Patrachar, Delhi	Rs150 and Rs50 for S/C, S/T
6. Open School, Delhi	Rs250 for children whose parents' income is Rs12,000 p.a. and above Rs200 for children whose parents' income is less than Rs12,000 p.a. (25 per cent concession to S/C, S/T)

The study by Dewal (1983) has revealed that most of the students do not regard these fees as high.¹⁵

¹⁴ Dewal, O.S., *Profile of Registrants, An Enquiry into Variables Relating to Students of Correspondence Institutions at the Secondary Level*, Open School, New Delhi, 1983.

¹⁵ *Ibid.*

D. Correspondence Course Lessons

Printed lessons are the pivot of all the courses. Each subject is divided into units which are presented in a few lessons. A unit is the unit of dispatch. It contains assignments and exercises. Some assignments are to be submitted to the institute. They are evaluated. It is compulsory to pass these assignments in some institutes. The position in respect of number of units, lessons, mode of interaction, type of assignments and their evaluation in different institutes is given in Table 2.

The units in a subject vary from 5-16 and lessons in a unit vary from 2-6. A research study has revealed that "correspondence lessons are not available in all the subjects offered by the students. The students offering these subjects have to make their own arrangements for the study materials" (Jagdish Singh, 1983).¹⁶ One reason is that the correspondence units are handicapped in producing lessons on all the subjects due to shortage of staff.

All the lessons are not self-contained. In a study on the reactions of students towards the lessons, 152 out of 240 students stated that the lessons were not self-contained. It was also revealed that English was one subject for which "all the students from all the states had to take help from outside material" (Dewal, 1982).

A few lessons are being written in the self-instructional form with the help of persons trained by the CIET. "There is, however, a need to work out a system for regular evaluation of materials and to obtain feedback from the students for continuous improvement of the materials. At present, this seems to be lacking" (Jagdish Singh, 1983).¹⁷

E. Personal Contact Programs

It is recognized that Personal Contact Programs (PCPs) are an important component of the distance-learning system. All the institutes except Bhopal organize PCPs. Even Bhopal is contemplating on it. The duration, periodicity, procedure and student arrangements are explained in Table 3.

The general experience of the institutes is that PCPs are helpful to students and also help the institute to understand and analyze the difficulties of the learners, and amend the lessons and activities of the institute to suit their requirements.

¹⁶ Singh, Jagdish, *A Study of the Correspondence Education Program of the Board of Secondary Education, Rajasthan*, Ajmer, CIET, New Delhi, 1983.

¹⁷ Singh, Jagdish, *A Study of the Correspondence Education Program of the Board of Secondary Education*, Ajmer, CIET, New Delhi, 1982.

However, a few observations of the researchers and learners as given below may also be examined:

- (i) Researchers report that attendance in the PCPs is very thin, (Dewal, 1983).¹⁸ Only 5 per cent of students attended PCP conducted by Ajmer in 1982-83 (Jagdish Singh 1983).¹⁹
- (ii) Duration periodicity is low. The programs should be held at least twice a year. They must be held once near the examinations when all the assignments are over and students need to remove difficulties most.
- (iii) Attendance is not compulsory. Hence many do not take advantage.
- (iv) Attending these programs involves travel and maintenance expenditure and leave from the place of work, being away from place of work. "Only students from well-off families can afford it." (Jagdish Singh, 1982).²⁰
- (v) Making own arrangements at a new place causes hardships and disturbs the learning of students.
- (vi) Students would like only difficult topics to be dealt with.
- (vii) Additional fee for attending these programs may not be charged.
- (viii) Contact teachers must take keen interest. They may be selected by the institutes and not the headmaster of the school who is in charge of the program. Selected teachers should be given orientation in the methodology of taking contact classes (Jagdish Singh, 1982).²¹

F. Practicals

For science students, some institutes provide facilities to undertake practical work at some selected laboratories. A separate fee is charged for this purpose. Patrachar Vidyalaya offers two types of science courses: one with practicals and one without them. Dewal's study²² has revealed that majority of students opt for science courses without practicals.

¹⁸ Dewal, O.S., *Profile of Registrants, An Enquiry into Variables Relating to Students of Correspondence Institutions at Secondary Level.*

¹⁹ Singh, Jagdish, *A Study of the Correspondence Education Program of the Board of Secondary Education, Rajasthan, Ajmer, CIET, New Delhi, 1983.*

²⁰ Singh, Jagdish, *A Study of the Correspondence Education Program of the Board of Secondary Education, Rajasthan, Ajmer, CIET, New Delhi, 1983.*

²¹ *Ibid.*

²² Dewal, O.S., *Profile of Registrants - An Inquiry into Variables Relating to Students of Correspondence Institutions at Secondary Level.*

Table 2: Particulars of Lessons Used in Institutes of Correspondence Courses

Institute	Number of Units in a Subject	Number of Lessons in a Unit	Mode of Interaction	Evaluation	Remarks
Bhopal	16	2-3	Odd-numbered units contain self check questions Even-numbered units contain assignments to be returned	Assignments are corrected by staff	Students must send 60 per cent assignments
Cuttack	5	4-6	Assignments to be returned at least three out of five	Assignments evaluated and returned with remarks	Student must secure 30 per cent marks on assignments
Allahabad	7	3-5	Each unit contains self-teaching questions for self-study and feedback Each unit contains assignment to be returned	- Assignments evaluated and returned with remarks	-
Ajmer	16	1	A postal package contains three lessons. Each package has one assignment to be returned	Assignments evaluated and returned	Students expected to return at least 50 per cent assignments but it is not obligatory
Patratchar Vidyalaya, Delhi	3	3-5	Each unit contains assignments to be returned	Assignments evaluated and returned	Promotion to classes X and XII is done on the basis of Evaluation of assignments. Those who fail to send at least 60 per cent assignments may be detained
Open School	9-10 dispatches	3-4 lessons	Self-check questions for own feedback Assignments to be returned	Assignments evaluated and returned	Assignments are optional

Table 3: Details of Personal Contact Programs

Institute	Duration	Periodicity	Procedure	Arrangements	Remarks
Ajmer	10 days	One a year	i) Circular sent ii) Headmaster I/C Programs briefed iii) Attendance optional iv) Additional fee charged	i Student arrange boarding/lodging themselves ii No railway concession admissible	
Bhopal	-	-		-	A full scale contact program is under consideration
Cuttack	5 days	One a year in December	i) Held in English Mathematics and Sanskrit ii) Attendance is optional iii) Additional fee of Rs. 10/- charged	i Student arrange boarding/lodging themselves ii No railway concession admissible	
Allahabad	5 days	Once a year	Attendance is optional	Student arrange boarding/lodging themselves	
Open School Delhi	5 days	One a year	Attendance is optional	-do-	
Patrachar Vidyalaya, Delhi	3-5 days	-do-	-do-	-do-	These are remedial classes

G. Model Question Papers/Remedial Classes

ICE, Allahabad provides model question papers near the examinations. Pandey's²³ study has revealed that students have liked these papers. Patrachar Vidyalaya organizes remedial classes in February near the examination. Students seem to like this service.

H. Conclusion and Recommendations

Correspondence education at secondary level began in India in 1965 in Bhopal. Even after 20 years, it has not made much headway. It covers only 1/3 per cent of the enrollment in formal schools. There are only six institutes. All the institutes except the Open School, Delhi offer the same courses as are given by the Boards of Secondary Education in respective states. They have fulfilled the need to improve the performance of private candidates, but have not played any role in equalizing educational opportunities and offering alternative need-based curricula. The percentages of females, Scheduled Castes, Scheduled Tribes are much less than those in formal schools. The percentages of employed adults are also negligible. They are in fact catering to a single class of students who are dropouts and leftouts in formal schools. Their domain of operation needs to be enlarged.

The courses being offered by the institutes are of a general nature. There is a great need to vocationalize education. For this purpose, need-based curricula should be developed and implemented. The Open School, Delhi has developed some good prototype courses on Type-writing and Tailoring. These courses need to be diversified and increased in consultation and collaborations with the Directorates of Industrial and Vocational Education in respective states.

The Boards of Education expect the institutions to be self-supporting. This policy should be changed and liberal grants to the institutes be sanctioned to improve the quality of education being given by them. The fees being charged need to be rationalized. By and large they need upward revision. In order to attract members of the disadvantaged communities, the policy of giving fee concessions may be continued. In addition, financial and material assistance to high achievers among them may be given.

One institute has no academic faculty at all. Most have few faculty members. Many high positions have remained vacant. This needs to be rectified immediately. No structural hierarchies particularly among the

²³ Pandey, M. P., *A Study on the Activities of Institute of Correspondence Education*, Uttar Pradesh, Allahabad, 1985.

academic functionaries ranging from lesson writers, tutors, evaluators, lecturers, Assistant Directors, Deputy Directors to Principals/Directors have stabilized. No clearcut guidelines for determining the strength of academic and other staff have been evolved or even prescribed by a national body as the U.G.C. has done for institutes of higher education.

Media technology has already proliferated in the Indian educational system but no attempt has been made to develop and use graphic aids, audio and videotapes, nor have any steps been taken to utilize radio support (at least) for the correspondence courses. Radio is already being used in formal school situation. Till 1983, radio programs covering secondary school curriculum were being originated from 44 stations and were relayed by another 30 giving us a total of 74 for an average duration of 40 mt per day. There were 116,975 radio sets in the schools in India. Their number has increased further till now. Some of these schools may be used as learning centers. Since the number of correspondence students is not much, the use of radio at this stage may not be cost effective. It is, however, advisable to develop audiotapes so as to enhance the teaching-learning process in present day learning centers and relevant resources – human and material could be utilized later on, when radio channel is used in correspondence courses. The stage is set and a beginning may be made in this direction.

Considerable experience and expertise has been developed in Non-Formal Education, Adult Education and Vocational Education Institutes to develop and implement need-based curricula. No linkages have been developed with these types of institutes. Distance Education Systems are different from those of the formal system. Its administrative and managerial problems are of a different type and Boards rules by and large do not serve the purpose. Specific rules, methods, procedures and techniques are needed for teaching-learning processes involving correspondence lessons, personal contact programs, student response assignments, study centers, etc. No wonder, instruction imparted through correspondence education is regarded as an inferior mode of education. There is a need to improve the quality of distance education in all aspects by the application of the Systems Approach.

DISTANCE EDUCATION AT TERTIARY LEVEL

A. Background

The first correspondence course in B.A. Pass Degree was introduced in 1962 by the Delhi University. Within a year it attracted an

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increasing number of students. Encouraged by its success, the Education Commission (1965-66) recommended the expansion of correspondence education.

The growth of institutes of correspondence courses at the higher level is shown in Table 4. It reveals that during the 60s, only four institutes of correspondence education were established. During the decade (1970-80), 21 universities started institutes of correspondence education. During the 60s, only undergraduate courses were started as an experimental measure, whereas in the 70s the institutes of correspondence courses started post-graduate and diploma/certificate courses as well. During 1980-86, seven more universities started institutes of correspondence education.

Table 4: Growth of Institutes of Correspondence Courses in Higher Education during 1960-1986

S. No.	Year	University Names	Number	Cumulative Frequency
1.	1962	Delhi	1	1
2.	1968	Punjabi	1	2
3.	1969	Meerut, Mysore	2	4
4.	1971	Punjab, H.P., Bombay, Jamia Milia	4	8
5.	1972	Andhra Pradesh, Sri Venkataswara	2	10
6.	1973	C.I.E.F.L.	1	11
7.	1974	Patna	1	12
8.	1975	Bhopal, Utkal, Bombay	3	15
9.	1976	Madurai, Kamraj, Jammu, Kashmir, Rajasthan, Kerala, Kurukshetra	6	21
10.	1979	Annamalai, Udaipur	2	23
11.	1980	Usmania, S.N.D.T. Bombay	2	25
12.	1981	Calicut, Pune, Allahabad	3	28
13.	1982	Open University, Andhra, Bangalore, Cochin, Madras	5	33
14.	1985	I.G.N.O.U., Delhi	1	34

Source: Data until 1982 computed from the University Grants Commission Reports for the year 1982-83.

In 1982, the Government of Andhra Pradesh took the momentous decision to establish the Andhra Pradesh Open University. An autonomous distance education university was set up. Soon after its establish-

ment, Tamil Nadu, Maharashtra, West Bengal and Kerala also started thinking in terms of Open University.

The Indira Gandhi National Open University started in 1985 is a landmark in the history of distance education in India. The jurisdiction of this University is the entire country. It will make use of modern communication technology for taking education to all who seek it. One of its aims is to experiment with innovations in the educational field and offer high quality education to the students. It has been empowered to supervise the functioning of all the distance education institutes in the country. The details are given in Appendix G.

B. Growth in Enrollment in Correspondence Courses in Universities

A review of the correspondence education at higher level has been done by Ruddar Dutt (1985).²⁴ He has found that as against 40,753 students receiving education through this technique in 1971-72, by 1975-76, total enrollment went up to 59,445 indicating a growth rate of 9.7 per cent per annum (Table 5). But during 1975-76 to 1982-83,

Table 5: Growth in Enrollment in Correspondence Course in Indian Universities

Year	Undergraduate	Post-graduate (including research)	Diploma/ Certificate	Total
1971-72	30,169 (74.0)	6,172 (15.1)	4,412 (10.8)	40,753 (100.0)
1975-76	48,016 (80.7)	11,429 (19.3)		59,445 (100.0)
1982-83	105,628 (66.2)	51,017 (31.9)	3,067 (1.9)	159,712 (100.0)
Annual Compound Growth Rate of Enrollment				
1971-72 to 1975-76	12.29	16.63	9.73	
1975-76 to 1982-83	10.95	23.81	15.18	

Source: Computed from the data provided by the University Grants Commission Report for the Years 1972-73, 1976-77 and 1982-83

²⁴ Dutt, Ruddar, *Distance Education in India*, National Workshop, Open School, 1985.

enrollment went up from 59,445 to 159,712 giving a growth rate of 15.2 per cent per annum.

The annual growth rate of enrollment in correspondence courses during the past few years has been much higher than that in the universities. For the period 1975-76 to 1982-83, the annual growth rate of enrollment was 15.2 per cent in Correspondence Courses as against a bare 3.7 per cent in the universities (Table 6). But as between different subsectors, the enrollment grew at the postgraduate level of 23.8 per cent per annum as against 5.5 per cent in university departments and colleges. At the undergraduate level, the growth rate of enrollment in correspondence courses, though higher than in regular colleges and universities, were much lower than the growth rate of the postgraduate level. In other words, greater expansion of distance education has taken place at the post-graduate level during 1975-76 to 1982-83 than at the undergraduate level. However, there has been very little growth of diploma/certificate courses through distance education.

Table 6: Growth of Enrollment in Universities and Affiliated Colleges in India

Year	Undergraduate	Post Graduate	Diploma Certificate	Total
1971-72	1,835,077 (89.9)	195,338 (9.5)	34,626 (1.6)	2,065,041 (100.0)
1975-76	2,140,919 (88.5)	238,207 (9.8)	40,983 (1.7)	2,426,109 (100.0)
1982-83	2,745,381 (87.3)	345,265 (11.0)	46,340 (1.5)	3,136,986 (100.0)
<u>Compound Annual Growth Rate of Enrollment</u>				
1971-72 to 1975-76	4.0	5.1	4.2	4.0
1975-76 to 1982-83	3.6	5.5	1.8	3.7

Source: Computed from the data provided in the University Grants Commission Report for the years 1972-73, 1976-77 and 1982-83.

C. Spatial Distribution of Correspondence Courses

The state-wise data indicating the share of correspondence students in total enrollment regionwise is given in Table 7. Taking the Southern

Table 7: Spatial Distribution of Enrollment in India (1982-83)

	Colleges and University Departments	Correspondence Courses	Total 3=(1+2)	Share of Correspondence Enrollment Total (per cent) 4=2/3×100
	(1)	(2)	(3)	
<i>Southern Region</i>				
1. Andhra Pradesh	243,877	17,244	261,121	6.7
2. Karnataka	236,494	14,736	251,230	5.9
3. Kerala	129,423	1,796	131,218	1.4
4. Tamil Nadu	234,785	67,042	301,827	22.2
Sub-total	844,579	100,817	945,396	9.5
<i>Northern Region</i>				
5. Delhi	81,101	9,822	90,923	10.8
6. Haryana	61,990	...	61,990	...
7. Himachal Pradesh	16,432	11,701	28,133	41.6
8. Jammu & Kashmir	21,259	1,875	23,134	8.8
9. Punjab	115,386	11,016	126,402	8.7
10. Rajasthan	170,242	6,136	176,378	3.5
11. Uttar Pradesh	479,034	1,367	480,401	0.1
Sub-total	945,444	53,917	987,361	5.5
<i>Central & Western Region</i>				
12. Madhya Pradesh	234,192	1,925	236,117	0.8
13. Maharashtra	369,626	12,690	382,316	3.3
14. Gujarat	206,180	...	206,180	...
Sub-total	809,998	14,615	824,613	1.8
<i>Eastern Region</i>				
15. Assam	64,135	...	64,135	...
16. Bihar	192,151	1,567	193,718	0.8
17. Manipur	9,062	...	9,068	...
18. Maghalaya	9,416	...	9,416	...
19. Orissa	66,868	796	67,664	1.2
20. West Bengal	195,327	...	195,327	...
Sub-total	536,965	2,363	539,328	0.4
Grand Total	3,136,986	159,712	3,296,698	4.9

region comprising Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, about 10 per cent of total enrollment in higher education is accounted for by distance education students in 1982-83. With Madras University also starting the Institute of Correspondence Education, the share of distance education is likely to increase still further in subsequent years. Tamil Nadu has the singular distinction of providing

education through distance education technique to 22 per cent of total enrollment. During 1984-85, over 125,000 students were reported to be receiving instruction through correspondence education in Tamil Nadu.²⁵

Similarly, in Andhra Pradesh with the establishment of the Andhra Pradesh Open University, distance education has acquired a more respectable status. But for Kerala in which distance education is making very slow progress due to the large number of parallel colleges operating in the State, in all other states in the Southern region, the share of distance education is higher than the national average of 5 per cent.

The second region which is of importance in the sphere of distance education is the Northern region comprising Delhi, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Haryana and Uttar Pradesh. Among them, Himachal Pradesh tops the list with about 42 per cent of total enrollment being accounted for by distance education. The share of Delhi is about 11 per cent and that Jammu and Kashmir and Punjab is about 9 per cent each. Rajasthan is still below the national average and just accounts for 3.5 per cent. The most disappointing is Uttar Pradesh where despite the fact that two Institutes of Correspondence Courses viz. Meerut and Allahabad, have been established, distance education has not got off the ground. Similar is the position in Haryana.

In the Central and Western region, it is only Maharashtra which has a promising record in distance education. But while Gujarat has yet to appear on the distance education map, the share of a large state like Madhya Pradesh being less than 1 per cent, only indicates the insignificant development of distance education in the State.

The vast Eastern region consisting of the States of Bihar, Orissa, West Bengal, Assam, Meghalaya, Mizoram, Manipur seems to be an arid region so far as distance education is concerned. The total enrollment in the two small units set up at Patna (Bihar) and at Bhubaneswar (Orissa) is about 2,400. The region as a whole accounts for 0.4 per cent of the enrollment in higher education being catered to by the distance education technique. This only indicates the vast untapped potential in this region for the development of this alternative technique.

D. Review of Relevant Literature and Experiences

A comprehensive study on correspondence education in higher education has been completed in 1985 by Vijaya Mulay, R.L. Phutela and Rita Nadir.²⁶ Many review articles have been published by G. Ram

²⁵ Dutt, Ruddar, *Distance Education in India*, National Workshop, Open School, 1985.

²⁶ Mulay, V., Phutela, R.L. and Nadir Rita, *Correspondence Education in Indian Universities - A Review*, U.G.C., 1985.

Reddy (1984),²⁷ Ruddar Dutt (1983),²⁸ Bakshish Sing (1985)²⁹ and others. A seminar on "Problems of Distance Education in Indian Universities"³⁰ was organized by the IGNOU during 17-18 January 1986. The author has also met many experts in this field. A review based on the author's discussions and the reports mentioned above is presented below.

E. Enrollment

The enrollment in the 32 institutes comprises about 5 per cent of the total enrollment in higher education. We are far behind the objective of enrolling about one-third students through correspondence education as was suggested by the Education Commission (1964-66).

Mulay, Phutela, Nadir (1985) have analyzed enrollments of 22 institutes in 1982-83. They found that enrollment in undergraduate courses in Jammu and Kashmir was less than 200. The enrollment in other institutes varied from 500 (Meerut) to 68,554 (Madurai). Several institutions in the north have enrollment well below the 100 mark. Many institutes are thus non-viable and need drastic improvements.³¹

F. Eligibility Standards

Eligibility standards for all the courses in different institutes is given in Appendix H. They are generally similar to those for regular students. However, Andhra, Mysore, Madurai and Annamalai have prescribed only age limits for certain courses. Certain universities like Madurai also provide introductory, pre-foundation and foundation courses to enable the students to come up to the eligibility standard.

G. Status of Correspondence Institutes

Only a few institutes have the status of an affiliated college. Most institutes have an indeterminate status. They are neither a faculty of the university nor have the status of an affiliated college and thus have neither the staff position which a faculty would have nor the freedom of operation which the principal of a college would enjoy. The indeterminate status of most of the institutions is a big obstacle.

²⁷ Ram, Reddy G., *Open Education System in India - Its 'Place' and Potential*, Hyderabad, Andhra Pradesh Open University, 1984.

²⁸ Dutt, Ruddar, *Distance Education in India: Its Development and Significance*, Workshop on Distance Education, Open School, New Delhi, 1985.

²⁹ Singh, Bakshish, *Distance Education in India*, IGNOU, 1985.

³⁰ *Ibid.*, (S.No.1.).

³¹ *Ibid.*, (S.No.4.).

H. Funds and Expenditure

Institutes receive funds from the U.G.C., State Universities to whom they belong and collect fees from students. A few institutes are able to collect funds from the public at large. Mulay, et.al. (1985) prepared a statement on receipts of funds during 1981-82 of 15 institutes as in Appendix J. It will be seen there from that on the average these institutes had received 50 per cent funds from fees. An analysis of the expenditure of these institutes (Appendix K) reveals that the expenditure on various heads in the decreasing order was as follows:

Items of Expenditure	Percentage of Expenditure
1. Student services	45.46
2. Salaries of core teaching staff	14.11
3. Salaries of non-teaching staff	12.69
4. Printing including paper	11.22
5. Advertisements and promotion	6.40
6. Establishment	4.37
7. Postage	2.83
8. Honorarium to contracted staff	0.077
9. New Communication Technology	0.003
10. Others	8.59

The fees charged by these institutes have also been looked into. For the pre-university courses it is about Rs200 p.a., for undergraduate courses it varies from 300-500, for professional courses it varies from 600-800. For the M.Sc. course, Madras University charges Rs1500.

The average expenditure per student came out to be Rs469.77. The highest per capita expenditure has been observed to be Rs1,268.72 and lowest Rs 63.84. The reasons for such a wide range are many. One is the variation in calculating the average cost per student. Some institutes incur recurring expenditure on rents on buildings and some do not incur such expenditure at all.

I. Courses and Examinations

Most of the institutes have the same syllabi as that for regular students. Madurai follows a parallel syllabus to avoid use of lesson materials by the regular students. In respect of others, examinations are common both for the formal and correspondence education students except for Madurai which holds separate examinations for correspon-

dence education students. Utkal also holds separate examinations for the regular and correspondence students. The latter are clubbed with the private candidates. The details of courses is given in Appendix H.

J. Introduction of New Courses

In most of the universities the proposals for new courses are first considered by the staff councils/faculty. Then they are sent to the Boards of Study and University bodies if necessary. As the Boards of Study have more members from formal education, innovative proposals are looked upon with suspicion and experimentation discouraged in most instances (Mulay, et al; 1985).³²

K. Correspondence Course Lessons

Printed lessons are the main instrument of instruction in the correspondence courses. The U.G.C. has given elaborate guidelines for developing lessons of high quality. One of the suggestions is that the teaching faculty in the Departments of the Universities must be actively involved in the development of lessons. Most of the institutes get the lessons written by experts from outside, including members of the faculty of the concerned departments of the universities. As regards revision and updating of lessons, it is done generally every three years in most of the institutes. Allahabad, Jammu, Kurukshetra and Poona have subject committees comprising heads of teaching departments and some experts. Heads of the departments in the Institute carry out this work in Osmania and Meerut. Others undertake this job only as and when it becomes necessary.

Mulay et.al (1985)³³ have reported that out of 23 institutes investigated by them, 12 institutes have tried innovative practices in lesson writing like composite writing of lessons through teams; introduction of semi-programmed instructional materials and review and updating lessons every year.

L. Personal Contact Programs

Personal Contact Programs are an important segment of Teaching Learning Process. However, its importance varies from institute to institute as well as according to the courses of study. Udaipur does not make attendance obligatory whereas most others require 40 to 75 per

³² Mulay, et.al., *Correspondence Education in Indian Universities - A Review*, UGC, 1985.

³³ *Ibid.*

cent attendance. The duration of Contact Programs in respect of B.Ed. courses is highest, i.e. from 3 weeks to 6 weeks; next comes the M.Ed. programs. The Madras organizes 20 days compulsory Contact Programs for M.Sc. Physics, Chemistry and Zoology practicals. Some institutes like Madurai-Kamraj and Kerala organize contact programs on Saturday afternoons, Sundays and holidays. Most of the institutes hold Contact Programs for 5 to 7 days. Some innovations in Contact Programs being practised are the introduction of consultation periods; rotation of venues along with provision of library-cum-reading rooms; increase in days; maintenance of registers for suggestions and grant of 50 per cent railway concession to participants.

M. Study Centers

Some attempts have been made to employ tutors to convert a few Personal Contact Programme Centres into study centers for guidance, but have not met with much success.

N. Response Sheet Assignment

Most institutes require their students to complete and return response sheet assignments. About half of them have made it obligatory. The students are required to submit at least 25 to 50 per cent assignments and pass percentage ranging from 33 to 40 per cent is also fixed for making the students eligible for taking the examination.

A few institutes have introduced innovations like despatch of motivational letters for better return; introduction of elaborate task-based assignments, assignments containing questions of application value and appending of assignments with alternate lessons.

O. Communication Technology

Radio talks to supplement lessons have been introduced by the CIEFL, Madurai-Kamraj, Osmania and the Open University, Andhra in which different formats such as classroom simulations, question-answer, debates and use of multiple voices have been tried. Cassettes have been used to correct pronunciation and delivery in the teaching of languages.

A CLOSER LOOK AT TWO INSTITUTES

A. Introduction

The Open School, Delhi, is the oldest institution of open learning in India. The School of Correspondence Courses and Continuing Education, Delhi University is the oldest institute in the country. Hence, these institutes have been selected for an in-depth study.

B. Open School, New Delhi

Open School was set up in July 1979 to provide education at home to out-of-school learners – school dropouts, working adults, housewives, learners from disadvantaged sections of society and those living in remote areas of the country. The main objectives are:

- (i) To offer bridge and preparatory or foundation courses to those whose achievement level corresponds to Classes VI to VIII so that the learner may successively take the secondary school level courses (IX–X).
- (ii) To offer Secondary, Senior Secondary, Technical, Vocational and Life Enrichment courses.
- (iii) To promote an open distance-learning system of education through research, publication and dissemination of information.

C. Open Learning Features

There are no rigid entry qualifications for admission to open school. It provides multi-level modes of registration according to the educational level of a learner. Those who do not have any formal qualification but can read and write and know basic arithmetic can opt for the bridging course and then can join secondary level course leading to Secondary School Examination X (Open School), of the Central Board of Education. It is a flexible scheme of studies in which the learner is free to select his own subjects. It has a flexible scheme of examination. It holds examinations twice a year in April and October. A learner can take the examination at one time in one or more subjects (up to five). A pass in five subjects may be obtained simultaneously or in parts. When a student passes in all the five subjects in which one of the subject must be

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either Hindi or English, he gets the certificate of CBSE for having passed the Secondary School Examination (Class X).³⁴

D. Enrollment

The enrollment is constantly increasing as shown below:

Year	Total Enrollment	Increase Over Preceding Year
1982-83	3,184	
1983-84	6,297	99%
1984-85	7,318	16%
1985-86	9,500	20%

The number of students from rural areas is showing some increase. In 1983, they constituted 8.2 per cent and in 1984, they constituted 16 per cent. Female students were 26.52 per cent in 1983 and 26.3 per cent in 1984. The percentage of students belonging to scheduled caste and scheduled tribe showed a marginal increase from 11.1 in 1983 to 13.4 in 1984. About 70 per cent of the students are adults falling in the age group of 17 years and above. About 83 per cent of students have opted for Hindi as medium of instruction. About 82 per cent of students belong to Delhi.³⁵

E. Teaching-Learning Process

Lessons

Printed lessons are the main instruments of instruction. They are available in Hindi and English. The materials are designed to suit the level of learners. A study guide is also given to students. It provides useful information about activities of open school and hints about organizing self study. The course in each subject has been divided into nine or ten despatches. Each despatch consists of several lessons depending on the size of the unit. The lessons are interactive instructional materials containing intext and terminal questions given between and at the end of the lesson. At the end of each despatch, assignments for the students are provided. The assignments are optional. The lessons are developed by a course team. Various tutors of Open School develop the lessons which are vetted by course teams. The lessons are revised on the

³⁴ *Open School Prospectus, 1985-86.*

³⁵ *Annual Report, Open School, 1985-86.*

basis of responses of students on response sheets as well as feedback received during personal contact programs.

F. Personal Contact Programs

PCPs are held periodically where students are taught selected topics in a face-to-face situation. These programs have been useful to the students in solving their difficulties and mastering difficult topics. They are held for 10 to 12 days. For this purpose five school buildings in Delhi and one school building each in Ajmer, Madras and Sikkim have been utilized during winter and summer vacations.

G. Resource-cum-Study Centers

There are 15 Resource-cum-Study Centers in Delhi and one each at Gangtok, Jaipur and Port Blair. These centers provide necessary educational support to help the learners pursue their studies effectively.

H. Staff Organization

The staff pattern of Open School is of a multiple nature. There is an Advisory Committee consisting of experts from NCERT, CBSE, Dept. of Adult Education, U.G.C., NIEPA, A.I.R. and eminent educators. The Director, Open School is the executive head, assisted by a Joint Director (Adm.) who is concerned with Accounts, Purchase, Printing, General Adm. and stores. There is a Deputy Director (Students Services) who is assisted by an Asst. Director (Mailing), Superintendent (Adm.) and Registration/Administration/Evaluation. There is a course Production Unit consisting of six tutors in Science, Hindi, Commerce, Mathematics, etc.

I. Results

In April 1983, the first examination of Open School was conducted. Nearly 2,437 students took examinations. The pass percentage of students ranged from 47.8 to 91.5 per cent. Considering the low educational background of the students the achievement is quite satisfactory.

Reviewing Comments

The Open School is an example of an innovative institution designed to provide objective-based distance education. Its strength lies in

providing a flexible scheme of studies and examination according to the needs of the learner. The individualized learning materials are developed through the rigorous process of programmed instruction.

It is an experimental project directly financed by the Ministry of Education. It is being implemented rather slowly but steadily. The syllabus for Class XII has been finalized in 1986. The courses are being developed and the course will be implemented from 1987. The syllabi of technical, vocational and life enrichment courses have not been formulated. It is envisaged that Open School should not limit itself to printed material only, but should gradually introduce advanced educational technology and media. Till now, no action has been taken. Since it is at an inception stage, neither the school nor the Ministry of Education is too cost conscious. One of the stated aims of the institute is to promote open distance learning system through research, publication and dissemination of information. It has conducted a research study on the profile of distance education students at school level. It is a survey type research. There is a need to conduct many more studies of intensive nature covering all important aspects of distance education.

The school has sufficient potential to provide education to out-of-school learners and great scope of expansion. It will be useful, if it designs courses in relevant need-based skills, develops model multimedia course packages, Learning Resource Centres and conducts intensive studies in distance education.

J. The School of Correspondence and Continuing Education

The school was established in 1962 for distance education of employed persons, housewives, and invalids, etc. But over the years it had also been used to accommodate the overflows from the University System. Initially it was designated as the Directorate of Correspondence Courses without a formal status in the university, i.e. it was neither treated as a university department nor a university-maintained institution. However, in 1969, it was designated as a university-maintained institution (college) under Ordinance XX of the Delhi University Calendar. It means the university will give full support to meet any deficit.

K. Courses

Initially the school offered only B.A. (Pass) Course. B.Sc. course was started in 1969-70, but was discontinued in 1973-74 on account of lack of demand for science courses. AB.Com. (Pass) course was intro-

duced in the year 1970-71 and subsequently, post-graduate courses in five subjects were introduced. The following courses are now provided by the school:

	Year of Installation
a) B.A. (Pass) Course I	1962-63
b) B.Sc.	1969-70 but discontinued
c) B.Com. (Pass)	1970-71
d) B.Com. (Hons)	1977-78
e) M.A. Hindi & Pol. Science	1982-83
f) Special Course in Hindi & Political Science	1982-83
g) M.Com. & M.A. History	1984-85
h) M.A. Sanskrit	1985-86

Note: One-year special course was introduced for students who had done B.A. with 14 years schooling so that they can become eligible for admission to M.A. course.

L. Enrollment

During the first year 1962-63, the enrollment was 1,112. It gradually rose to 16,735 in 1969-79. Due to restrictions in enrollments and due to introduction of 10+2+3 Scheme, enrollments declined continuously till 1981-82. In 1982, it was decided that a student who has passed Higher Secondary could join B.A./B.Com. (Pass) courses and who secured 45 per cent marks could join B.Com. (Hons) course. There were sharp yearly increases in enrollments. The enrollment was 18,520 in 1984-85 and 21,355 in 1985-86.

The break-up of enrollment in the year 1985-86 is presented below:

A. Undergraduate	Total Enrollment	% of Total
B.A. (Pass)	11,926	55.8
B.Com. (Pass)	7,094	33.2
B.Com. (Hons)	1,060	5.0
Sub-Total	20,080	94.0
B. Post-Graduate		
M.A. Hindi and Special Course	400	1.9
M.A. Political Science Special Course and Special Course	191	0.9
M.A. History	60	0.3
M.Com.	566	2.6
M.A. Sanskrit	58	0.3
Sub-Total	1,275	6.0
Grand Total	21,355	100.0

It may be noted that 94 per cent of the students are enrolled at the undergraduate level and 6 per cent at the post-graduate level. Out of 94 per cent enrolled at the undergraduate level, 55.8 per cent are enrolled in B.A. (Pass) level, i.e. 11,926, in B.Com. (Pass) 7,094 and in B.Com. (Hons) 1,060.

At the post-graduate level, the University of Delhi followed the same eligibility criteria for admission as were applicable to students for admission to regular university departments. As a consequence, the admission in various courses has remained rather restricted. The number of students seeking admission to the M.Com. course has been around 450 which indicates a very heavy intake. Although the School of Correspondence Courses has been repeatedly urging upon the university to give permission for starting courses in M.A. Business Economics, M.A. Economics and M.A. English, it has not been granted permission by the university.

M. Characteristics of Students

Eighty-seven per cent of students enrolled in 1984-85 were unemployed. The institute, thus, largely caters to the overflows in the university system. As regards sex distribution, 58 per cent were males and 42 per cent were females. However, the proportion of females was 28 per cent in 1975-76, 38 per cent in 1980-81, 42 per cent in 1984-85 and 45 per cent in 1985-86 showing that correspondence education is being increasingly made use of by females.

N. Teaching-Learning Process

Lessons

The lessons are developed under the direction of different departments of the school. Each course is divided into four to five units and each unit consists of five to seven lessons. At the undergraduate level, most of the lessons are developed by the internal faculty and at the post-graduate level, on account of large number of specializations, the help of outside teachers of the Delhi University or even from other universities is taken. The rates for remuneration for lessons are quite low and they are as follows:

Post-graduate: Rs200 per lesson of 15-20 double space typed pages
B.A./B.Com. (Pass)/B.Com. (Hons): Rs100 per lesson of 10-15 double space typed pages

Rate for Translation:

- a) Rs75 for translation of a lesson of a size up to eight printed pages
- b) Rs100 for translation of a lesson of more than eight printed pages

Besides, the school pays Rs2 per page as typing charges. A lesson writer is required to submit three typed copies of the lesson. The lessons developed by internal or outside teachers are vetted by a sub-committee of the department before printing.

O. Response Sheet

Every study material has response sheets attached. These are returned by the students and checked by the teachers of the School of Correspondence Courses.

P. Personal Contact Program

Ninety-four per cent of the students are from Delhi. Hence, personal contact programs are held in Delhi only. Since most of the students are unemployed, the school invites unemployed students on working days and employed students on Sundays and other holidays. For this purpose the school makes use of the buildings of the colleges of the University of Delhi. Approximately 50 to 60 per cent of the students attend the personal contact program which is optional. The durations of personal contact programs provided are as follows:

- (i) 20 days PCP during a year for undergraduate students
- (ii) 30 days PCP during a year for post-graduate students. Payment made to teachers for participating in the PCP program on Sundays and other holidays is as below:
 - (a) Rs30 per period of 50 minutes duration at the undergraduate level
 - (b) Rs50 per period of 50 minutes duration at the post-graduate level

Q. Other Student Facilities

Library

There is a library with a stock of 128,244 books. It subscribes to 120 periodicals and 14 newspapers. About 10,000 students make use of library facilities and daily users average 12,000. The library has an issue of 2,500 books daily. There is a budget provision of Rs7.15 lakhs for library books. The library has a total staff strength of 23.

R. Book Bank

Students from weaker section are provided books for the full session which are to be returned after they have appeared in the examination. Three hundred seventy-three students benefitted during 1984-85. The school charges a fee of Rs2 per student on this account and a matching contribution is provided by the U.G.C. This enables the school to provide such assistance to the extent of Rs60,000 per year.

S. Staff

The school has 84 teachers in 11 departments. There is one principal, 53 teachers in Readers scale and 30 in Lecturers grade. The teaching staff-student ratio works out as 248:1.

The number of non-academic staff is 213. The highest officials are the Registrar and Accounts Officer. There are 14 sections as mentioned below:

Staff Members	
Admission Section	2
Accounts Section	3
Examination Section	2
Establishment Section	1
General Section	2
Mailing Section	1
Printing Section	1
PCP Section	1
Record Section	1
Watch and Ward Section	<u>1</u>
	<u>14</u>

The non-teaching staff-student ratio works out to be 100:1.

T. Examination Results

The pass percentages for 1985 for different courses were as follows:

B.A. (Pass)	45%
B.Com. (Hons)	87%
M.A. (Hindi)	70%
M.A. (Pol.Sc.)	80%

These results are good as compared to pass percentages of regular students of the University.

U. Cost of Education

The enrollment constantly increased from 6,482 to 18,520 during 1980-81 to 1984-85. Consequently, cost per student showed a decline from Rs806 in 1980-81 to Rs552 in 1984-85. These figures are at current prices. Even then over the five-year period, cost per student has declined by 31 per cent. The income from fees per student as a proportion of the total cost has shown an increase from 28 per cent in 1980-81 to 42 per cent in 1984-85. As a consequence, there has been a gradual reduction in the subsidy component by State from Rs577 per student in 1980-81 to Rs320 in 1985-86.

The Institute has worked out the cost of education per student in selected colleges of Delhi and the School of Correspondence and Continuing Education in 1983-84. The average cost of education per student in formal colleges was Rs3,187 as against Rs613 in the case of School of Correspondence and Continuing Education.³⁶ In another study conducted by the Institute, the efficiency of the correspondence mode was compared with formal education in which the results of the final examination year 1977 were compared. It was found that the pass percentage of students of regular colleges was 56.72 while that of the students of correspondence education was 41.57.³⁷ But there are other factors which may also be considered in these studies. Regular college students are qualitatively better off in terms of their performance at the previous examinations and they have better socioeconomic backgrounds.

³⁶ Dutt, Ruddar, "Cost of Education per Student in Selected Colleges of Delhi and School of Correspondence Courses," Delhi University, 1985.

³⁷ Dutt, Ruddar, "Cost and Efficiency of the Different Techniques of Education in Delhi University," *Journal of Higher Education*, Vol. 6, No. 1-3, UGC, 1980-81.

V. Reviewing Comments

The institute has highly experienced staff in correspondence education. It has the distinction of developing very good courses in print, e.g. B.A. and M.A. (Hindi). Being a part of the university, it suffers from a few administrative problems particularly in its attempts to introduce innovative courses which have been stifled in the past. For example, their scheme to introduce a course in M.A. (English) with papers on the teaching of English which will be useful for in-service and pre-service English teachers has not yet met with approval. A few other courses, too, have not been approved.

It is the only institute which has conducted some studies on cost-effectiveness of correspondence education. In fact more intensive studies should be done and support should be given to it.

SYSTEMS APPROACH TO IMPROVE DISTANCE EDUCATION

A model of this teaching-learning system in a correspondence course situation is presented in Figure 2. It consists of three principal components as depicted in boxes 1.1, 1.2 and one of the boxes 1.3.1, 1.3.2, . . . 1.3.4. These boxes represent the following:

Box 1.1: Shows a set defined by the title "learning material". It consists of correspondence lessons, self-feedback questions, assignments, notes, books, etc.

Box 1.2: Shows a set of human resources labelled "tutor". It consists of content specialist, lesson writers, evaluators, laboratory attendants and tutors.

Box 1.3.1 . . . 1.3.4: They represent a set of learners. One of them is represented by box 1.3.1.

The learning occurs by the interactional events mentioned below:

- (i) Learner studies at home with lessons, workbooks, feedback questions and assignments returned by tutors with remarks and improves his learning.
- (ii) Learners and tutors meet at a contact program center or a laboratory.

Since communication technologies like radio and TV are not being used for the present and, for the sake of simplicity, they have been omitted from the discussion for the present.

SYSTEMS APPROACH TO IMPROVE DISTANCE EDUCATION

An instructional system has three subsystems: (i) Planning and Management; (ii) Administrative subsystem; and (iii) Academic subsystem. The functions of the three subsystems are shown in Fig. 1.

FIG. 1: Functions of Three Systems of Distance Education

1. Planning and Management			
Specification of Courses and Target Groups; Administrative and Financial Sections; Administrative & Academic Leadership; Monitoring and Evaluation			
2. Administrative		3. Academic	
Material	Human Resources	Development Materials	Develop and Utilize Human Resources
<i>Immovable</i> Hire, procure buildings, furniture, equipment, laboratories, libraries, etc.	<i>Functionaries</i> Appoint tutors, writers, administrative personnel, provide facilities for work	Lessons Workshops Assignments Methods Procedures	Training and orientation to tutors/lesson writers etc. Organize workshops/meetings
<i>Movable</i> Printing lessons, storage, retrieval, dispatch/receipt, etc.	<i>Learners</i> Select students, collect fees, allocate tutors, provide facilities, award degrees		Assign academic work to tutors and other functionaries

Teaching-Learning Process

Teaching-learning processes are the interactions of the learner with the learning materials and the live tutors. These interactional events produce learning in a learner. These processes form the delivery system which is the most crucial subsystem.

The model in Figure 2 depicts teaching-learning processes in both the situations mentioned above. In case number (i) the learner interacts with the lessons at a certain point of time and the tutor evaluates and provides feedback far removed in space and time. In case number (ii) the teaching-learning process is taking place at a particular time and space.

Our endeavor is to make the system objective-based as far as possible. This may be done as follows and as depicted in Figure 3.

1. *Specification of Instructional Objectives:*

These are statements of instructional outcomes in terms of measurable learner capabilities. They determine the kind of learning materials and evaluation instruments to be developed.

2. *Development of Evaluation Instruments:*

Evaluation procedures should be developed along with instructional objectives. Thereafter test items and testing situations to obtain evidence as to how much of intended capabilities have been acquired by a learner. It is useful to develop a bank of test items and testing situations. They will form the basis of two subsystems, namely, "Formative Evaluation" and "Summative Evaluation" systems. Formative Evaluation is resorted to throughout the course when the learner is going through training.

A model of an objective-based teaching-learning process showing the interrelationship between Formative and Summative Evaluation systems is shown in Figure 3.

Through this system all the three essentials viz. (a) objectives, (b) teaching, learning processes variables and (c) output variables are specified.

3. *Development, Tryout and Validation of Learning Materials:*

Learning materials like lessons, assignments and textbooks are the mainstay of the system. They present content, elicit responses and provide feedback. Such materials are developed in different formats and according to different methods. The methods and materials should be such that they maximize the rate of acquisition and retention of learning. These materials should be tried out and validated in three stages, namely, (a) individual testing, (b) group testing, and (c) field testing.

A. Improving the Systems

Evaluation is an integral part of the systems approach. This requires checking the amount and quality of output; checking the contributions of the subsystems in the total process of education with a view to

Fig. 2: TEACHING-LEARNING PROCESS MODEL

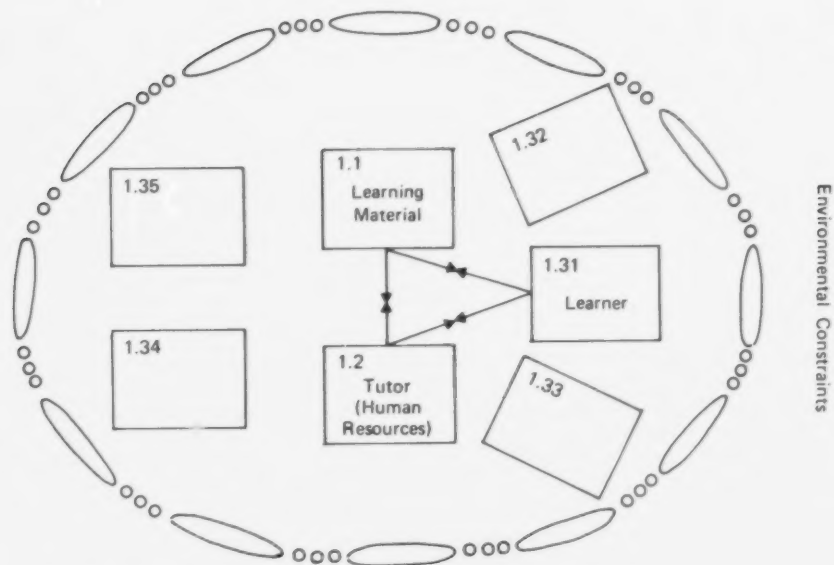
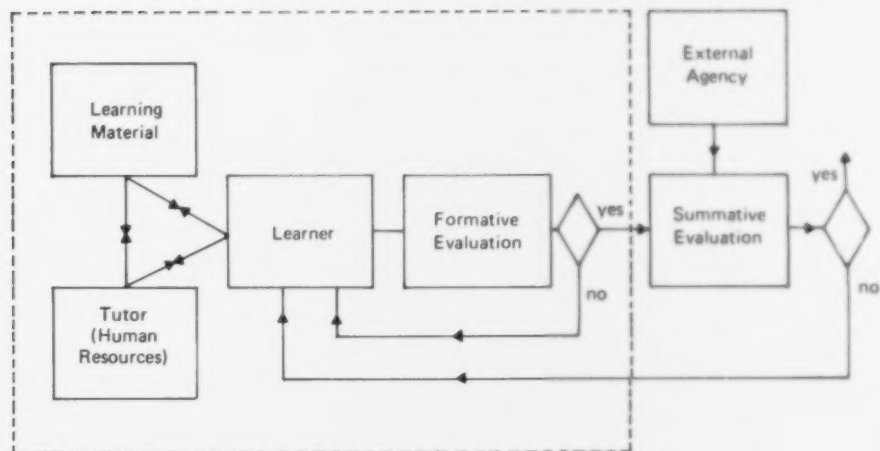


Fig. 3: OBJECTIVE-BASED TEACHING-LEARNING PROCESS SYSTEM



making improvements and to effect changes in the subsystems. The following example in this context is pertinent.

Students of Patrachar Vidyalaya, Delhi are required to submit assignments immediately after they complete their unit. As immediate feedback helps in learning, it is important that students should receive back the response sheets as soon as possible after they submit them. In the study conducted by Jagdish Singh (1983),³⁸ it was found that 39 per cent of the students of Class IX and 25 per cent of the students of Class XI received back the response sheets two months or more after their submission. The Vidyalaya office explained that response sheets are sent to outside evaluators who must return them within ten days. But at times this practice takes longer. This situation calls for a system analysis approach. What is the minimum time required, by which internal course faculty can return the response sheets and what is the minimum time taken when external evaluators are appointed? What is the effect on the learning outcomes and which procedure will be economical? The systems approach helps to locate linkages of subsystems with the output and helps one to think of alternatives for adoption. Another example is given below for further clarification.

The Institute of Cuttack in 1981 had two section officers and 14 clerical staff to run the Institute. They appointed external lesson writers, tutors and evaluators. The academic wing is absent. The Institute of Delhi (Patrachar Vidyalaya) had, in 1980, 24 members of academic staff comprising post-graduate and graduate teachers, 36 ministerial and Class IV staff. The lessons in each subject were written by the academic staff.

The work in respect of (a) production of draft lessons, (b) printing of lessons and (c) use of lessons in the correspondence courses of these institutes may be analyzed and compared. The effectiveness of these two systems may be investigated by the systems approach and desirable changes in these institutes and others may be brought about.

It may be noted that all the institutions have the following type of teaching-learning processes:

- (i) Correspondence lessons with some sort of self feedback
- (ii) Assignments
- (iii) Contact programs

An attempt may be made to assess the contributions of each of these processes to the total output through system analysis and improvements may be suggested.

³⁸ Singh, Jagdish, *A Study of the Correspondence Education Programme of the Board of Secondary Education, Rajasthan, Ajmer, CIET, New Delhi, 1982.*

There are a few institutes who are utilizing radio, library services and learning centers. The teaching-learning processes in these institutes likewise may be investigated to assess their role in the total effectiveness of the institute.

It is also useful to assess the contributions of each of the processes costwise. One advantage of the correspondence education mode is that per capita cost decreases with the increase in enrollment at a faster rate as compared to the formal system. But the relative cost-effectiveness of each of the sub-processes mentioned above needs to be investigated.

B. The Distance Education System

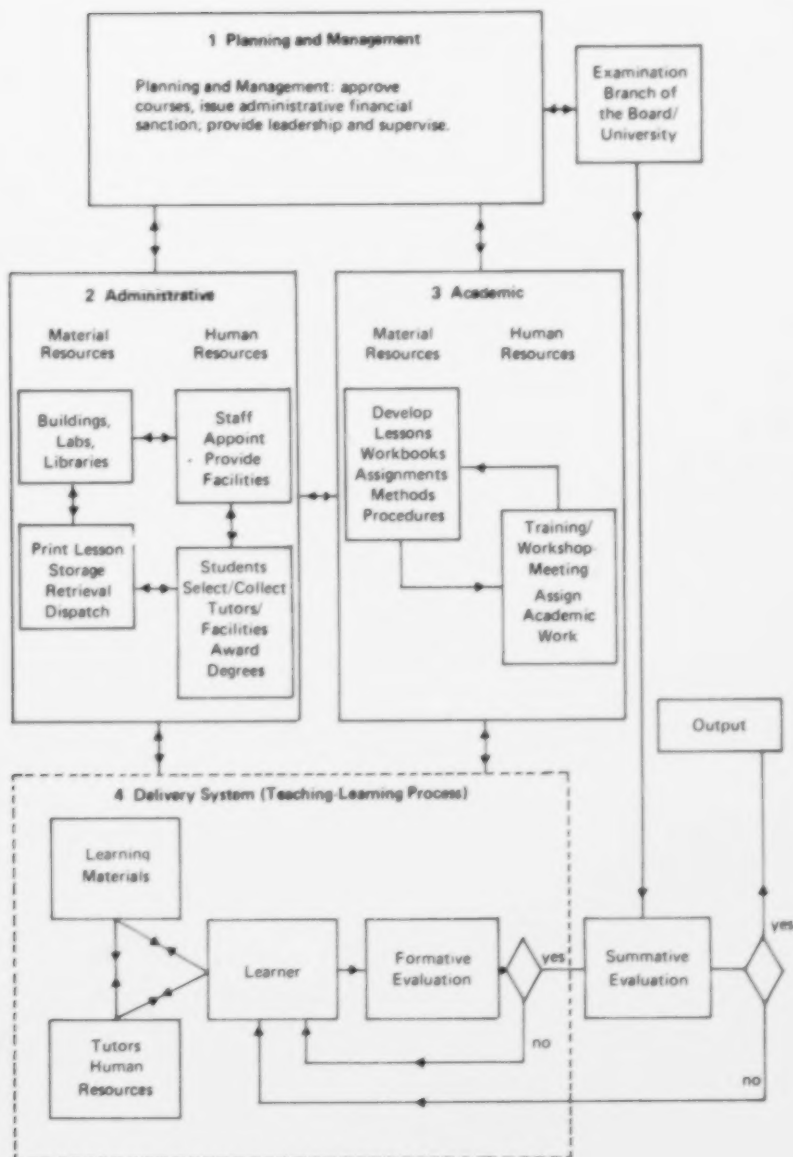
A system operates through its components which supplement and complement the operations of one another. The distance education institutes under discussion may be conceived to have the following system:

1. Planning and Management
2. Administrative
3. Academic
4. Delivery System (Teaching Learning Process)
 - Learning Materials
 - Tutors (Human resources)
 - Learners
 - Formative Evaluation
5. Evaluation (Summative)

A layout of the Distance Education System is given in Figure 4.

It may be noted that there should be an internal consistency within a system. This means that the output of a subsystem feeding the other subsystems should be adequate and timely. The subsystems 1, 2, and 3 should serve the subsystem 4 in appropriate quantity and quality. The Delivery system and the Evaluation system should also be supplied with sufficient quantities of parallel test items and evaluation strategies. After the subsystem Formal evaluation, there is a decision box indicating that if the output (learning outcomes of the learner) is not satisfactory, the learner should be provided further training to suit his requirements. If the learning outcomes are satisfactory, he is fit to sit for the Board's or the University's examination. There is a decision box after Summative Evaluation also. This implies that if the output is not satisfactory, the learner should receive remedial training. If the output is satisfactory, the learner is declared to have passed.

Fig. 4. DISTANCE EDUCATION SYSTEM



C. Systems Approach at Macro Level

The effectiveness of an institute with reference to a given set of learners, courses, and human and material resources has been discussed in the preceding paragraphs. Here the unit of analysis was the Institute. It was analyzed in terms of its important components. The Institute itself is a subsystem of the collection of institutes in a state and in the whole country. They collectively form a subsystem of the total Indian education system. As explained earlier the distance education system at school level is producing only 0.31 per cent of the total outturn of students at classes X and XII in the country. This means one out of 310 persons is a dropout from a correspondence institute. At the tertiary level, the distance education system is producing 5 per cent undergraduates, graduates and post-graduates as against 95 per cent being produced by the formal education system. Our aim is to expand distance education in such a way that it contributes optimally to the total output of the Indian education system. The present distance education system has not attracted working adults, women and persons of disadvantaged communities as much as expected. Some tangible measures need to be taken in this respect.

The goals of education have been spelled out in the New Education Policy (1986). There will be a common core curriculum of the classes 10+2+3 with other components that are flexible. The common curriculum may be analyzed and transformed into correspondence course packages by the joint efforts of concerned institutes on a cooperative basis and utilized in respective institutes. This will improve the quality as well as decrease the cost.

There is no linkage between the school education and higher education. Even within the same state, the courses are developed and implemented at different levels independent of each other. The Open School, Delhi and Indira Gandhi National Open University are potential innovative institutes functioning directly under the Department of Education, Ministry of Human Resource Development. They may function in close cooperation with each other.

It will be useful for them to establish linkages with the organizations engaged in the assessment and forecasting of manpower needs of the country. The Institute of Applied Manpower or the Manpower, Labour and Employment Division of the Planning Commission may undertake comprehensive studies on an all India basis to identify and quantify shortage categories of skills in the country and to suggest appropriate short and long term manpower strategies on the basis of which relevance-based curricula for distance education may be planned and implemented in collaboration with organizations in health, industry

and agriculture so that the output is not turned into unemployed adults.

One area of education that may be allocated to distance education is the in-service teacher training at all levels. In the New Education Policy, the thrust in elementary education will be to achieve universal enrollment and retention of children up to 14 years and to improve the quality of education. One way to achieve this is to upgrade the quality of teachers particularly those teaching in single-teacher primary schools facing the problems of multiple class teaching.

It has been decided that vocational education will be a distinct stream, intended to prepare students for identified occupations. The teachers in secondary schools are not trained to perform these functions. They will have to be systematically located and provided training. Since they live in different areas and since they have to be trained while they remain on job, correspondence courses may be designed and implemented for them.

At present only 2 per cent of higher secondary students join vocational courses. It is proposed that vocational courses cover 10 per cent of higher secondary students by 1990 and 25 per cent by 1995. The correspondence courses may be designed to fulfill this aim as far as possible. Suitable vocational courses may be designed by using the facilities in vocational schools and industrial training schools for practicals.

By now the country has long experience of conducting correspondence courses. It has sufficient expertise at school and college levels particularly in the following areas of work:

- (i) Correspondence course lesson development in different formats and styles appropriate to content and lessons.
- (ii) Methods of conducting PCPs and running study centers, resource centers and libraries.
- (iii) Innovative practices in distance education like developing student records, maintaining schedules, providing feedback, giving advisory and counselling services, analyzing progress reports.
- (iv) Development of training manuals, books and conducting research studies for guidance of distance educators.

The above-mentioned work has been done by individuals and organizations independent of one another. An inventory of experts and institutions may be developed on the basis of which regular seminars, conferences and training courses should be organized to share the experiences and adopt tried out methods, procedures and techniques. More experienced experts may be involved in developing distance

education course packages for training tutors, evaluators and other functionaries in the ever-expanding distance education system.

The New Education Policy envisages the use of correspondence education mode for adult education. The demand in this respect needs to be assessed and distance education planned accordingly. Only four institutes use radio lessons and audiotapes at learning centres. The Open University Andhra Pradesh also uses videotapes. But by and large media technology has not proliferated in the distance education system.

Radio and television in the country have developed in two ways, one way has been in the form of terrestrial services which are constantly being expanded since independence in the case of radio and since 1959 in the case of television. The other way has been the developments since the advent of INSAT IB which will be followed by INSAT IC. The role of INSAT in education has assumed greater importance because of its superior hardware capabilities. Firstly, the INSAT service is insensitive to distance, e.g. remote locations are not cost disadvantage. Secondly, extensions like radio and other communication links may be added to ground stations providing flexibilities difficult in terrestrial system³⁹ (Parker and Lusignan, 1977). Thirdly, it is recognized that satellite systems are by and large more reliable than terrestrial links, reducing remote maintenance problem and operation cost⁴⁰ (Rice and Parker, 1979).

Most of the institutes of distance education are not yet developed to utilize fully the Radio and T.V. services because the enrollment in different courses is not very large. Hence it is advisable that they begin preparing and using audiotapes and videotapes to be used in learning centers. This stock of audiovisual materials can later on be used through radio and TV. In the program of mass media development through INSAT IC, a provision for separate education channel has already been envisaged and spade work to utilize these channels should begin immediately.

Several institutes have already conceived projects for development and utilization of appropriate technologies like mass media and audiovisual aids in a systematic manner and undertaken research and evaluation of the materials and program as priority. They may be supported through coordinating institutes like Open School and IGNOU.

A few distance education institutes make use of libraries but audio visual facilities ranging from charts, slides, tape slides, audiotape, videotapes to computers are considered to be separate entities and

³⁹ Parker, E.B. and Lusignan, [Technical and Economic Considerations in Planning Radio Services," in *Radio for Education and Development*, Vol. II, Washington, D.C., World Bank, 1977.

⁴⁰ Rice, Ronald E. and Parker, Edwin B., "Telecommunications Alternatives for Developing Countries", *Journal of Communications*, 1979.

luxury items. In fact they should be an integral part of distance education systems. A general lack of strategy and awareness of their use with the constraints of finance and staff have made their use non-operable.

There is thus a need to develop at least model resource centers, one at the school level and the other at the college level. One may be at the Indira Gandhi National Open University and the other at the Open School, Delhi which will offer a unified collection of both print and non-print instructional resources and the machines and equipment needed to utilize instructional resources and specialized environments that complement personal contact program, by providing additional small medium group and individualized study environments. The materials will be collected from within India and abroad. At the Indira Gandhi National Open University, this model center may be the responsibility of the Communications Division and at the Open School, that of the Library & Documentation Cell.

A new phase of liberalizing the educational opportunities has been ushered in by setting up the Indira Gandhi National Open University to encourage the Open University and distance education systems in the country and coordinate in determining the standards in such systems. Two innovative institutions — the Open School, Delhi and the Open University, Andhra Pradesh have already experimented with development, implementation and evaluation of relevance-based flexible curriculum at school and college levels. A chain of state open universities are also being established. The systems analysis for improving distance education in respective states should be the ongoing activity of these organizations.

Appendix A

ESTIMATED POPULATION OF INDIA IN 1986 (1000)

Sl. No.	Age Group Years	Female	Male	Total
1.	5-9	44,861	47,168	92,030
2.	10-14	44,174	46,906	91,081
3.	15-19	39,078	42,946	82,024
4.	20-24	32,689	35,945	68,635
5.	25-44	92,556	97,202	189,759
6.	44 & above	63,450	68,490	131,940
7.	All age groups	366,798	391,359	758,158

Source: *Population Projections for India 1981-2000*, Registrar General of India (1984).

INDIA IS A UNION OF AUTONOMOUS
STATES AND UNION TERRITORIES

The States are:

ANDHRA PRADESH
ASSAM
BIHAR
GUJARAT
HARYANA
HIMACHAL PRADESH
JAMMU AND KASHMIR
KERALA
KARNATAKA
MADHYA PRADESH
TAMIL NADU
MAHARASHTRA
NAGALAND
ORISSA
PUNJAB
RAJASTHAN
UTTAR PRADESH
WEST BENGAL
MANIPUR
MEGHALAYA
ARUNACHAL PRADESH
SIKKIM
MIZORAM

The Union Territories are:

ANDAMAN & NICOBAR ISLANDS
CHANDIGARH
DADRA & NAGAR HAVELI
DELHI
GOA, DAMAN & DIU
LACCADIVE, MINICOIY &
AMINDIVI ISLANDS
PONDICHERY
TRIPURA



Appendix C

PRIMARY AND SECONDARY SCHOOLS IN SEPTEMBER 1983,
ENROLLMENTS AND TEACHERS¹

Sl. No.	Schools	Number	Enrollment ('000)			Teachers ('000)			% of Trained Teachers
			Boys	Girls	Total	Male	Female	Total	
1.	Lower Primary (Classes I-V)	509,143	49,322	31,775	81,097	1,047	369	1,416	88.2
2.	Upper Primary (Classes VI-VIII)	126,345	16,500	8,500	25,000	603	276	879	90.6
3.	Secondary Schools (Classes IX-X)	44,951	11,097	6,447	17,544	414	188	602	88.6

¹ *Studies in Educational Statistics* No. 1 – 1985, Ministry of Education, Planning, Monitoring and Statistics Division, New Delhi (1985).

Appendix D

INSTITUTIONS AND ENROLLMENTS IN GENERAL
EDUCATION IN CLASSES XI-XII AND VOCATIONAL AND
TECHNICAL OF THE SAME LEVEL

Sl. No.	Institutions	Number	Enrollment ('000)
1.	*Senior Secondary Schools Classes XI-XII	10,284	3,127
2.	**Vocational Schools Classes XI-XII	1,349	45
3.	***Polytechnics Classes	328	47

* As in September 1983, in *Studies in Educational Statistics* No. 1-1985, Ministry of Education, Planning, Monitoring and Statistics, pp.22-23.

** As in 1981 in *Status of Vocational Education at Higher Secondary Stage and Direction for Future Planning*, NCERT (1986).

*** As in 1979, in *A Handbook of Educational and Allied Statistics*, Ministry of Education, 1983, p. 179.

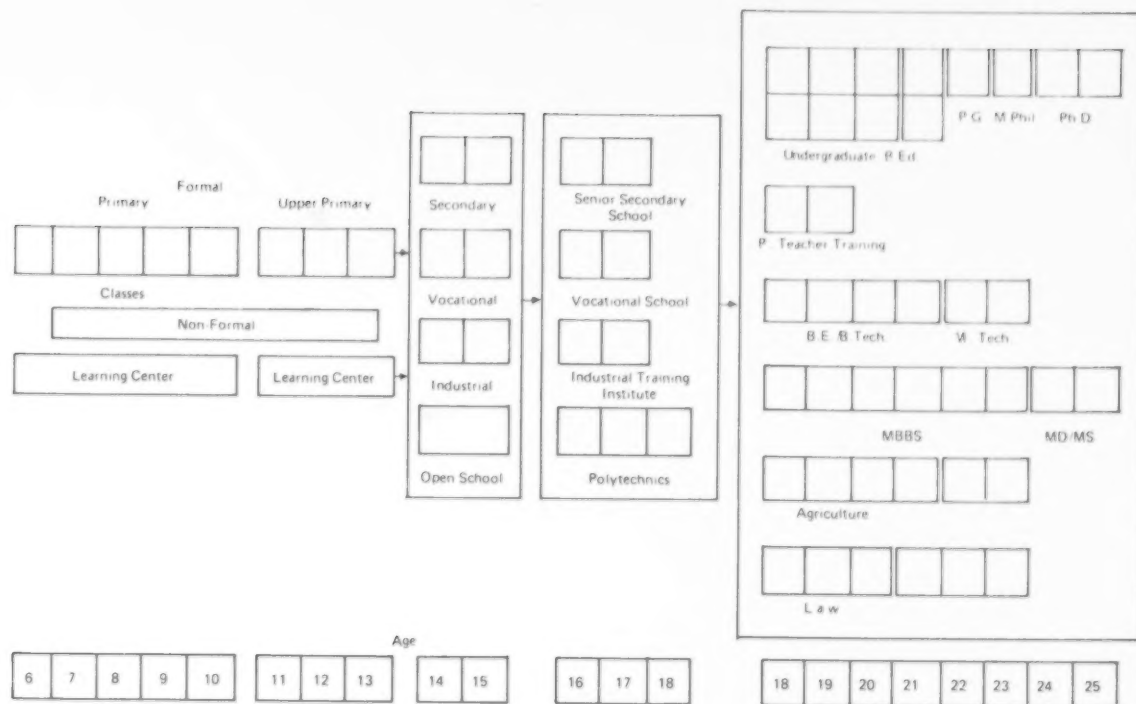
**STUDENTS ENROLLMENT AND DISTRIBUTION OF
COLLEGES ACCORDING TO COURSE OF STUDY, 1983-84**

Courses of Study	Enrollment of Students	Number of Colleges	
	*This excludes junior colleges & diploma/certificate colleges		
1. Arts	1,313,154	4,041	
2. Science	664,601		
3. Commerce	753,485		
4. Education	74,009		
5. Engineering/Technology	157,732	191	
6. Medicine	121,388	286	(include pharmacy, nursing, dental, homeopathy)
7. Agriculture	42,231	58	
8. Veterinary	9,306	28	
9. Law	201,004	186	
10. Others	22,613	65	
Total	3,359,323	5,246	

Source: University Grants Commission, Report for the year 1983-84.

STRUCTURAL LAYOUT OF THE EDUCATION SYSTEM IN INDIA

Appendix F



**A BRIEF NOTE ON THE INDIRA GANDHI
NATIONAL OPEN UNIVERSITY**

The Indian Parliament passed an act in 1985 to establish a National Open University for the introduction and promotion of Open University and Distance Education systems in the educational pattern of the country and for coordination and determination of standards in such systems. The objects of the University are:

- (i) to advance and disseminate knowledge by a diversity of means including communication technology;
- (ii) to provide opportunities for higher education to a larger segment of the population;
- (iii) to promote the educational well-being of the community generally;
- (iv) to encourage the Open University and Distance Education systems in the educational pattern of the country; and
- (v) to coordinate and determine the standards in such systems.

It is further stated that the University shall undertake activities in the following major fields with due regard to the objectives stated above:

- (a) Strengthen and diversify the degree, certificate and diploma courses related to the needs of employment and necessary for building the economy of the country on the basis of its natural and human resources;
- (b) Provide access to higher education for larger segments of population and in particular the disadvantaged groups who wish to upgrade or acquire knowledge through studies in various fields;
- (c) Promote acquisition of knowledge in a rapidly developing and changing society and to continually offer opportunities for upgrading knowledge, training and skills in the context of innovations, research and discovery in all fields of human endeavors;
- (d) Provide an innovative system of university level education,

Appendix G

Page 2

flexible and open in regard to methods and pace of learning, combination of courses, eligibility standards, examinations and operation of program with a view to promote learning and excellence in field of knowledge;

- (e) To contribute to the improvement of educational system in India by providing a non-formal channel complementary to the former system;
- (f) Provide education and training to the various arts, crafts and skills of the country, raising their quality and improving their availability to the people;
- (g) Provide or arrange training of teachers required for such activities;
- (h) Provide suitable post-graduate courses of study and promote research; and
- (i) Promote national integration and the integrated development of human personality through its policies and programmes.

These objectives are sought to be fulfilled through a diversity of means of distance and continuing education and function in cooperation with the existing universities and make full use of latest scientific knowledge and new educational technology to offer a high quality of education which matches the needs of contemporary society.

In brief, it shall be the duty of the University to take such steps as are required to promote Open University and Distance Education systems and for the determination of standards of teaching, evaluation and research in such systems and for the purpose of performing this function, the University shall have such powers, including the powers to allocate and disburse grants to colleges or any other university or institution of higher learning as may be specified by its status.

Jurisdiction – It shall extend to the whole of India. It will be open to this University (a) to establish and maintain regional centers and study centers; (b) to provide for preparation of instructional materials including films, cassettes, video-cassettes and other software; (c) to recognise examinations of, or periods of study (whether in full or part) at other universities/institutions of higher learning as equivalent to examinations or periods of study college or a Regional Center; and (e) to admit to its privileges any college in or outside India.

The University has already started functioning from its main offices located at Jai Mal Singh Road and Hauz areas of New Delhi. Its main campus would come up at Maidan Garhi. With the appointment of Vice-Chancellor, Pro-Vice-Chancellor, Consultants and some academic

faculty, some staff are already in position and other recruitments are underway.

The authorities of the University are:

- (i) The Board of Management;
- (ii) The Academic Council;
- (iii) The Planning Board;
- (iv) The Board of Recognition;
- (v) The School of Studies;
- (vi) The Finance Committee; and
- (vii) Such other authorities as may be declared by the statutes to be the authorities of the University.

The University after the initial work proposes to introduce courses in the following disciplines:

- (a) Management
- (b) Distance Teaching
- (c) Rural Development
- (d) Computer Sciences

**PARTICULARS OF COURSES OFFERED BY THE INSTITUTE OF
DISTANCE EDUCATION IN INDIA**

1986

Postal Address	Correspondence Courses	Duration	Eligibility	Academic Session
1. Director, Institute of Correspondence Courses in Continuing Education, Univ. of Allahabad 211002	BA/BCom Part I BA/BCom Part II	2 yrs.	Pre-Univ/Inter or an equivalent exam.	June/July
2. Director School of Correspondence Courses, Andhra University, Waltair, Visakhapatnam-530003	BA/BCom (Open Univ Scheme)	3 yrs.	BA/BCom Course under Liberalised Admission Scheme is offered to those who do not have previous academic qualifications. Candidates should be at least 20 years of age on July 1 of the year of admission is made on the basis of entrance test.	
	MA Econ. Eng Pub Adm.	2 yrs.	BAEcon/Rural Econ or BL or BL or BGL degree	July/Aug
	M Com	2 yrs.	BCom degree or equivalent	-do-
	BEd	14 months	In-service graduate Teachers of Andhra Pradesh with 2 years experience	Dec/Jan
	BEd	14 months	BEd degree holders with 5 years teaching experience in High School/College in Andhra Pradesh. Preference is given to those who are	Dec/Jan

			working in colleges of Andhra Univ. Weightage is given to candidates possessing postgraduate qualification. Reservation for SC/ST/Backward Classes as per rules
3. Registrar Andhra Pradesh University 6-3-645, Somajiguda Hyderabad-500004	BA/BCom	3 yrs.	If you are at least 20 years of age on June 1, you are eligible for admission. If you passed the Eligibility Test conducted or Inter Exam or its equivalent, you are eligible for admission.
	BSC	3 yrs.	A pass in the Inter(Sc) or equivalent exam and must have reached the age of 20 years on June 1 of the year of admission
	PG and other Diplomas		
4. Director, Directorate of Correspondence Courses & Continuing Education, Annamalai Univ. Annamalainagar-608002	Foundation Course	2 yrs	10-year SSLC exam or equivalent or exam
	BA/BLit. (Tamil)		As per advertisement in the Newspapers.
	BCom	3 yrs.	Higher Secondary (12-years) or equivalent
		2 yrs.	(Generally it is in June/July)
	MA in Econ.		BA/BSc degree

**DESCRIPTION OF THE WORKING OF INSTITUTES OF
CORRESPONDENCE EDUCATION AT SCHOOL LEVEL**

A. Board of Secondary Education, M.P. Bhopal

The Board started correspondence education in 1965. It is imparting instruction in 14 subjects in Arts, 6 in Science and 7 in Commerce. The courses are the same as those prescribed for Class XII of 10+2 scheme of education. The media of instruction are English and Hindi. Each subject is divided into 16 units of 2 or 3 lessons. The writing is done by regular full-time tutorial staff. Some lessons are also prepared on the self-instruction style.

The lessons with odd numbers (1, 3, 5, etc.) contain assignments which the student should do and return to the Board. The lessons with even numbers contain self-check questions. The assignments sent by the students are corrected at the Board and a record is kept on the student's achievement.

The science students are provided facilities to undertake practical work at some selected laboratories. A separate fee of Rs 15 per subject is charged. The tutor is also available for guiding students at the place of practical work.

The Chairman of the Board is the Head and the Secretary of the Board is the Chief Executive. The institute has two wings: an Administrative Wing, which is headed by a Registrar, and an Academic Wing, which is headed by a Deputy Director. The Registrar is assisted by one Assistant Registrar and a few Section Officers and Office Staff. One Section Officer is in-charge of 3,000 students. The Deputy Director is assisted by senior and junior tutors in different subjects, one Cartographer and one Graphic Artist.

Students enrolling come from all parts of India. Foreign students residing in India also join these courses. The number of students every year is about 15,000. During 1980-81 enrollment was as high as 21,368. During 1984-85 the enrollment was 17,027. It is reported that the results of the students compare well with those of regular students. The pass percentage in 1985 was 41 per cent in Arts, 19 per cent in Science and 45 per cent in Commerce.

B. Patrachar Vidyalaya, Delhi

The Directorate of Education, Delhi, set up the Vidyalaya in 1968 for providing facilities to dropouts, housewives, in-service personnel and those who could not get regular schooling for some reason. The admission is open to all those residing in India irrespective of age, sex or nationality. The fees are Rs 150 per annum. The fees for Scheduled Castes and Scheduled Tribes students are Rs 50 per annum.

The Vidyalaya prepares students who have passed Classes VIII & IX and X & XI, respectively, for the Secondary Examination (Class X) and Senior Secondary Examination (Class XII). The Vidyalaya gives instruction in 26 subjects covering Languages, Commerce, Sciences and Social Sciences.

Correspondence lessons are written by experts. They contain exercises and assignments. The students are required to solve the questions in the assignments and their response sheets are checked, corrected and evaluated by the faculty as well as outside evaluators. They are returned to the students with suggestions for improvement.

The medium of instruction is Hindi only except in case of languages. However, a student can send his response sheet in English also. In science subjects for Classes XI and XII the medium is English.

The lessons are sent according to the following schedule:

1. First Set – with Admission Slip in May
2. Second Set – September
3. Third Set – November

Promotion of students from Classes IX and XI to the next class is done on the basis of their performance in the response sheets. Those who fail to send at least 60% response sheets in each subject are liable to be detained in their respective Classes. Students of classes X and XI are also advised to send their response sheets regularly. The Vidyalaya also arranges remedial classes for students taking Boards examination sometimes in January and/or February.

There are separate departments of English, Hindi, Sanskrit, Urdu, History, Political Science, Geography, Commerce, Accountancy and Insurance, Economics, Mathematics, Sociology, Science and Regional Languages. In each department senior teachers are the members of faculty. There is a Deputy Director of Education who is the Principal as well as the Research Officer. There are two Vice-Principals and one Librarian. The Administrative Wing consists of a Superintendent, Head Clerk, etc.

Appendix I

Page 3

The enrollment during 1985-86 is 15,823, the break-up being as follows:

Classes	Male	Female	Total
IX-X	2,836	2,637	5,473
XI-XII	7,257	3,193	<u>10,450</u>
Total			<u>15,823</u>

C. Board of Secondary Education, Rajasthan, Ajmer

The Board started Correspondence Course in 1978 for private students at the Higher Secondary Examination. It is a one-year course. It offers teaching in English, Hindi, Physics, Chemistry, Mathematics and Biology, Advance Hindi, Civics, Economics, History, Bookkeeping, Accountancy, Banking and Commercial Geography. The medium of instruction is Hindi.

The Board contracts writers to write correspondence lessons. They are reviewed and then published. A typical lesson has two parts, the "reading" and the "assignment" part. "Assignments" are of two kinds: those which are corrected by the student himself and those which are sent to the Board for assessment. The Board contracts evaluators who evaluate the written assignments (called student response sheets). They are then sent to the student by the Board Office.

The contact session was first started in 1974-75 on an experimental basis. In years 1974-75 and 75-76, the Board organized contact programs for local students only at Ajmer. In 1976-77 six centers were opened and contact programs were organised for 10 days. About 1,700 students participated. In 1977-78, sixteen centers mostly at district headquarters were opened and about 2,500 students took the advantage. The students who come to attend contact programs make their own food arrangements. The school, however, provides them accommodation. Before contact programs start, the Board convenes a meeting of all the headmasters who will work as in-charge of contact centers. The Board gives a list of topics to be covered during the ten-day contact session.

The annual enrollment is about 10,000 students. The pass percentage is about 35 per cent which is quite low as compared to the regular students whose pass percentage is about 65-70 per cent.

The Correspondence Unit is headed by a Deputy Director who is assisted by one Assistant Director (Academic) and one Assistant Direc-

tor (Administration). There are five tutors who coordinate and edit lessons.

D. Board of Secondary Education, Orissa, Cuttack

The Board of Secondary Education, Orissa, offers one year Correspondence Course at the High School Certificate Examination. It is intended for non-matric students. The fee is Rs 100 payable in three installments.

All compulsory subjects and three optional subjects are taught in the Correspondence Course. The Board sends 30 lessons in each subject covering the entire school syllabus. Each lesson is about 10 pages in size. The 30 lessons are grouped in five units and each unit is sent to the student at an interval of two months.

The lesson writers are given Rs 75 per lesson. For correcting a student response sheet an evaluator gets 45 paise per sheet in a subject and a student is required to send at least 3 response sheets and secure 30 per cent marks in the aggregate.

The contact program is held in English, Maths and Sanskrit in the month of December for a period of 5 days. The student pays Rs 10 for this contact program and makes his own arrangements.

The Vice-President of the Board is the Director of the Correspondence Unit. Below him are one Deputy Secretary, one Assistant Secretary and two section officers. One is concerned with enrollment; preparation, printing, dispatch of lessons; collection of fees; and coordination of work relating to lesson writing. The other is concerned with evaluation of response sheets, dispatch of valued response sheets and processing of applications for appearing at the Higher Secondary Examination.

E. Board of High School and Intermediate Education, Uttar Pradesh, Allahabad

The Institute of Correspondence Education was set up in 1980 to raise the educational standard of private candidates appearing at High School (Class X) and Intermediate Examination (Class XII) of Board of High School and Intermediate Education, U.P. In order to achieve the above aims, necessary provisions were incorporated in the Regulation framed under the Secondary Education Act, 1921. Correspondence education was made compulsory for the candidates appearing for the first time at the High School and Intermediate Examination.

Candidates are registered at registration centers located in 56 districts. There are separate centers for girls and boys. Thus their number is 112 in the state. A fee of Rs 250 is charged from general candidates and Rs 150 from Scheduled Caste and Scheduled Tribe candidates.

For preparation of the Correspondence Course lessons, there is one Advisory Committee for each subject consisting of experts of the subjects and writers of fame. Each subject is divided into papers and each paper is divided into 7 units. Each unit contains 3 to 5 lessons. Each lesson presents some material and the feedback material is presented in a box. At the end of each lesson self-testing questions are given. At the end of each unit a response sheet is attached, which is sent back by the student. It is evaluated by subject experts and returned to the student for guidance.

A contact program is organised regularly to understand and analyze difficulties of the students and amend the lessons and activities of the Institute. In order to give them an idea about the pattern of examination question papers, model question papers are sent to students before the examinations. The students liked this step.

F. Open School, Delhi

Its description is discussed in Section B of "A Closer Look at Two Institutes".

RECEIPTS OF FUNDS BY CORRESPONDENCE INSTITUTES 1981-82

S1. No.	Name of Institute	Grants from UGC	Universities	Fees from students	Sources	Other Total
1.	Jammu University	—	—	711,631	—	711,631
2.	Delhi "	4,461,000	—	1,372,249	107,176	5,940,425
3.	Punjab "	500,000	2,250,000	3,559,133	—	6,309,122
4.	Punjabi "	100,000	—	1,280,500	—	1,380,500
5.	Kurukshstra "	—	—	688,241	—	688,241
6.	Allahabad "	125,000	—	291,056	—	416,056
7.	Himachal Pradesh "	—	—	2,142,782	706,226	2,849,008
8.	Bombay "	—	—	2,228,000	—	2,228,000
9.	Udaipur "	150,000	180,000	—	—	330,000
10.	Patna "	—	—	859,026	—	859,026
11.	Utkal "	—	300,000	65,000	—	365,000
12.	Andhra "	—	—	3,728,858	—	3,728,858
13.	Osmania "	50,000	—	496,000	488,000	1,034,000
14.	Annamalai "	—	—	5,113,480	1,047,575	6,161,055
15.	Kerala "	150,000	—	942,332	—	1,092,332
16.	Mysore "	—	—	—	—	7,119,336
Total		<u>5,536,000</u>	<u>2,730,000</u>	<u>23,478,277</u>	<u>2,348,977</u>	<u>41,212,590</u>

NB: Kashmir, Meerut, SNDT, Poona, Bhopal, Madras and Madurai have not supplied information. Mysore has given the total receipt of funds and did not provide break up under different heads.

Source: Mulay, et al., *Correspondence Education in Indian Universities – A Review*, UGC, 1985.

Appendix K

EXPENDITURE OF CORRESPONDENCE INSTITUTES UNDER VARIOUS HEADS IN 1981-82

University	Salaries of core teaching staff	Honoraria for contracted staff	Salaries of non-teaching staff	Establishment expenses	Student services	Printing, including paper	Postages	New communications technologies	Advt. and promotions	Others	Total
1. Jammu	110,000	—	212,426	60,197	97,225	99,225	20,545	—	15,430	48,429	566,252
2. Delhi	1,360,396	—	1,944,128	41,661	362,705	4,449,551	264,364	—	64,016	777,271	9,264,092
3. Punjab	2,242,330	—	2,277,342	227,000	421,500	250,000	300,000	—	30,000	—	5,748,172
4. Punjabi	1,208,000	—	809,500	49,100	220,600	554,000	65,000	—	65,000	—	2,971,200
5. Kurukshetra	—	—	—	3,456	30,700	77,425	56,400	—	5,686	—	173,667
1. Allahabad	114,846	982	37,686	14,356	95,929	35,531	15,100	—	15,264	11,861	309,605
7. H.P.	1,175,287	—	1,134,863	362,805	342,316	274,990	181,181	—	15,715	—	3,490,157
8. Patna	—	15,300	292,806	—	10,309	192,303	20,000	—	6,000	31,915	568,633
8. Utkal	674,394	9,598	—	26,856	20,384	29,000	21,000	—	—	—	781,232
10. Udaipur	68,547	110,102	45,554	2,791	35,565	77,385	18,509	—	—	15,737	275,190
11. Bombay	—	31,200	463,490	392,000	100,000	435,750	—	—	—	38,650	1,461,090
12. Bhopal	155,079	—	—	—	—	17,101	76,590	—	—	18,319	267,089
13. Andhra	140,934	—	634,850	—	136,144	1,333,738	1,241,328	595,599	—	37,372	3,726,514
14. Annamalai	322,670	—	430,341	108,506	606,875	253,777	150,149	2,991	102,157	1,176,375	2,193,710
15. Madurai	3,200,351	—	2,220,265	2,262,916	1,441,778	4,955,551	938,020	—	180,575	2,409,883	1,634,425
16. Kerala	4,447,891	—	265,507	8,794	97,527	302,537	68,000	—	13,534	33,257	1,235,527
17. Jammu	300,000	—	(2 & 7)	159,450	211,811	482,347	288,000	—	31,800	3,430,321	6,290,958
18. Madras	300,000	—	1,000,000	200,000	3,500,000	—	—	—	—	—	5,000,000
	13,056,567	167,182	11,172,290	4,052,002	42,188,209	10,405,106	2,626,967	2,991	593,358	7,272,705	92,791,549
Percentage	14.11	.077	12.69	4.37	45.46	11.22	2.83	.003	6.40	8.59	

N.B. Kashmir, SNDT, Poona, Osmania & Meerut have not supplied information. Madras has given approximations under item (i) to (v) and nothing under 6 & 10.

Source: Mulay, et al., *Correspondence Education in Indian Universities - A Review*, UGC, 1985.

**Extracts from the Report of the Seminar on
“Problems of Distance Education in Indian Universities”
Held by Indira Gandhi National University, Delhi
January 17–18, 1986**

The following problems and their solutions were identified during discussions at the seminars:

1. Status of the institutes

Most of the institutes are treated as a constituent college of the university. However, some of the progressive universities have given them the status of a university Teaching Department. A couple of universities have gone a step further and created a full-fledged Faculty of Non-formal Education or Distance Education.

It would be in the fitness of things to have a Faculty of Distance Education in the university offering correspondence courses. Besides enhancing the status of the institute, it would pave the way for instituting, conducting and guiding research on various aspects of distance education. The institutes of correspondence courses should be designated as Department of Distance Education and treated as full-fledged multi-faculty teaching departments of the universities.

2. Status of the teachers

In most of the universities the teachers in correspondence courses are regarded as second rate teachers and they are discriminated against in various ways. In some cases they have not been given designations prevalent in the university Teaching Departments. Some institutes do not have their own faculty at all, and some have very few faculty members. Of course a few institutes are over-staffed also. Teachers who are seconded from the Teaching Departments to the institutes for a couple of years do not have any sense of involvement and are indifferent. No institute with such teachers can have a good image.

The designations of teachers in the institutes, their qualifications and selection procedure should be the same as in the Teaching Departments; they should have representation on university bodies as university teachers and be associated in guiding research if they are qualified to do so. They have the same promotion prospects as teachers in the teaching department have.

3. Lack of proper training to teachers in the distance education methodology, etc.

Most of the institutes face problems in the implementation of the distance education concept, methodology, etc. because the teachers have not been given any proper training in this innovative system. They have been just put on the job and left to learn from experience. Unless a teacher develops sincere commitment to the Distance Education System, he cannot contribute much to the development of that system on proper lines. Occasional seminars and workshops organized by the UGC, NCERT and the universities do help to some extent, but the participation is limited and quite a few teachers never get a chance to attend such seminars or workshops.

There is need for a training program for teachers in the institutes of correspondence courses and State Open Universities. The Diploma Course in Distance Education being planned by IGNOU should fulfill this need. Some workshops too would be organized by IGNOU to meet the staff development requirements.

4. Lack of a systematic study of norms for determining the strength of academic and office staff

This has resulted in overstaffing in some institutes and woeful lack of adequate staff in others. Although UGC had laid down norms for core staff both for the undergraduate and post-graduate courses, there is need to look into this matter, and evolve clear-cut guidelines for determining the strength of the academic as well as office staff.

5. Duplication of courses

There is unnecessary duplication of correspondence courses in some regions and even within the state in a few cases. This adversely affected enrollments in some institutes leading to serious financial problems.

Duplication of course within the same state should not at all be permitted. Even within the region it should be avoided as far as possible. In fact, duplication of the institutes within the same region/state should also be avoided unless the existing institute crosses the unwieldy mark in respect of enrollment.

6. Finance

It is a pity that some universities regard correspondence courses institutes as revenue-earning departments and utilize these savings to cover deficits in other departments or divert the refunds to the general university fund. Even the state governments expect correspondence courses institutes to be self-supporting and are reluctant to provide grants for correspondence courses. The reality is that with revised pay scales of teachers and the administrative staff, and rising costs of paper, printing, etc., most of the institutes are now in the deficit. The paucity of funds is retarding the growth and development of correspondence courses institutes and affecting their efficiency. In a socialistic pattern of society in which the upliftment of backward sections of populations is supposed to be given priority, it sounds incongruous that the correspondence courses which cater to the educational needs of backward sections of society should be denied adequate fundings.

7. Accommodation problems

Some institutes have independent buildings and adequate physical facilities, but some of them do not have accommodation and are hard put to it. This affects the efficiency and image of the institutes.

Careful planning and liberal building grants are required to improve the situation. The institutes must have proper accommodation for their teachers and office staff, and for library, classrooms, storage, despatch and the various sections in the institutes.

8. Private appearance

Some universities, even though they have instituted correspondence courses, allow private appearance at the university examinations. This adversely affects enrollment for correspondence courses and creates financial problems for the institutes.

It would be in the interest of academic standards and financial viability if universities which offer correspondence courses abolish the practice of private appearance at the university examination.

9. Media and student support services

Except for about half a dozen institutes, others do not have any radio support for the correspondence courses being serviced by them. TV support is altogether missing.

Most of the institutes do not have any study centers and those which have are just apologies for study centers. Lack of financial resources and initiatives are the main reasons for this state of affairs.

The Government, universities and IGNOU must provide adequate financial assistance to the correspondence courses institutes to establish proper study centers at different places with well-organised library and media support, counselling and tutorial facilities for the students.

10. Innovative, interdisciplinary, job-oriented courses

Most of the institutes are sort of extension centers of the universities offering their traditional courses. Even if they propose innovative courses, they are not approved by the university bodies. This prevents the institutes from exploiting the potential of making education relevant to the needs of society.

This problem could be solved if the universities offering correspondence courses establish the Faculty of Non-formal or Distance Education, and constitute special expert committees for starting innovative courses.

11. Course material

The writing and printing of course material is most crucial to the success of distance education courses. There is need to enhance remuneration for course writing and to involve experienced teachers in the writing of course material preferably on the team approach basis. Strict quality control needs to be exercised on printing format and tot-up of the course material.

12. Evaluation of Response Sheets

Very few institutes insist on compulsory submission of response sheet assignments by the students. The evaluation of SRAs is also not done properly. It is generally slipshod, casual and erratic marking without proper comments on the students' performance. This defeats the very purpose of students' assignments.

The students must be required to submit a fixed number of response sheet assignments in every subject of study, suitably spread over the academic session, and obtain at least 35 per cent marks on the average. It would be a good incentive if the score of evaluation of these SRAs is added to the students' score in the examination in the ratio 20:80, 25:75 or 30:70.

There must be an effective monitoring of the evaluation of SRAs to eliminate or at least reduce the bone of erratic or careless marking. The teachers must give detailed comments and suggestions on the students' performance while marking the SRAs.

13. Personal contact program

Very few institutes insist on compulsory attendance at the personal contact programs, and some institutes organise these programs only at their headquarters. More classroom lectures which some institutes arrange at the PCPs defeat the very purpose of having these programs. The PCPs should be so planned as to ensure a good deal of interaction between the students and the teachers, consultations, counselling and guidance. Some mechanism for getting feedback from the students regarding quality and adequacy of the course materials, etc. should also be advised. Attendance at the PCPs should be compulsory for all students. Some special lectures by distinguished guest speakers, particularly at the post-graduate level, should also be arranged at the PCPs.

14. Administrative problems

Most of the institutes do not have adequate administrative and financial autonomy. This adversely affects their functioning and efficiency.

The institutes need to be given reasonable amount of administrative and financial autonomy to ensure their proper functioning. The institutes should have their own bank accounts for the receipt of income from students' fees etc. The Directors should have the authority to incur expenditure on all items provided for in the budget without having to seek sanctions from the Vice-Chancellor or the Registrar. This decentralization of powers would lead to better functioning and efficiency.

REFERENCE DATA

Area	3,387,782 sq km
Population	
Census 1981	685.18 million
Estimated 1986	758.16 million
Annual growth rate	2.25%
Actual literacy rate (1981)	36.2%
Estimated literacy rate (1986)	39.45%
Government	
Main organizational structure	
Political set up	Democratic, Socialist, Secular Republic
Main organizational structure	Parliamentary form of Federal Government with unitary features consisting of 23 states and 8 union territories
Economy	
Type	Predominantly agriculture
Net national product (1981-82) at 1970-71 prices	Rs 496,390 million (It has shown an increase of 4.9% over 1980-81)
Per capita income (1981-82) at 1970-71 prices	Rs 715 (It has shown an increase of 2.6% over 1980-81)
Communications	
Ground/Air	All round good communication services through rail, air and automobiles.
Mail/Telephone	Mail regular and reliable except in remote difficult terrain; telephone well developed.

BroadcastingPrincipal authorities
responsibleMinistry of Information and
Broadcasting
All India Radio
Directorate General of
Doordarshan (TV)**Radio**Transmission coverage
of main program
services88 stations
(167 transmitters of which 128 are
medium wave)Percentage of population
reached90.27% of the population spread
over 79.78% area of the country**Television**Transmission coverage
as defined for radio
(percentage)
Monochrome or color180 transmitters which cover 70%
of the population

Color

Education

Type of systems

Predominantly local and state
governments controlled and
financed public schools
independent of both state and
central governments also flourish.
Local Governments, Corporations
etc., State Government,
Department of EducationMain authorities
responsible and powers
At primary school
levelEnd of primary school
(I-VIII)Education is free and compulsory
in all the states from I-V. It is
free and compulsory for girls and
S/C, S/T in almost all states from
VI-VIII but for others in about
50% states only.Secondary/Senior
SecondaryState Governments are
responsible.
Central Government

Higher Education

administration in few schools. Central Government is concerned with Central Universities and Institutions. State Governments are concerned with State Universities and Institutions.

Details of Institutions

Estimated number (1985)

(i) Primary (I-V)	565,000
(ii) Upper Primary (VI-VIII)	145,000
(iii) High/Higher Secondary (IX-XII)	62,000
(iv) Colleges	
(a) Art, Science & Commerce Colleges	3,550
(b) Professional	1,600
(c) Universities and Deemed Universities	141

Enrollment by Stages (in 1,000) and percentage (in bracket)

(i) Primary (I-V)	85,377 (91.84)
(ii) Upper Primary (VI-VIII)	26,729 (53.07)
(iii) High/Higher Secondary (IX-XII)	16,800
(iv) University and above (1st Degree)	3,442

Expenditure

(Rs in crores ten millions)

Total	60,000
Plan	8,000
Non-Plan	52,000

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AIR	All India Radio
AP	Andhra Pradesh
CBSE	Central Board of Secondary Education
CET	Centre for Educational Technology
CIET	Central Institute of Educational Technology
CSIR	Council of Scientific and Industrial Research
IGNOU	Indira Gandhi National Open University
ICC	Institute of Correspondence Course
ICE	Institute of Correspondence Education
MP	Madhya Pradesh
NCERT	National Council of Educational Research and Training
NIEPA	National Institute of Educational Planning and Administration
OS	Open School
PCP	Personal Contact Program
PG	Post Graduate
SC	Scheduled Caste
ST	Scheduled Tribe
TN	Tamil Nadu
UG	Under Graduates
UGC	University Grant Commission
UP	Uttar Pradesh
UT	Union Territory

DEGREES & DIPLOMAS

B.A.	Bachelor of Arts
B.A.L.	Bachelor of Academic Laws
B.B.A.	Bachelor of Business Administration
B.Com	Bachelor of Commerce
B.Com. (Hons.)	Bachelor of Commerce (Honours)
B.Ed.	Bachelor of Education
B.G.L.	Bachelor of General Laws
B.Lit.	Bachelor of Literature
B.Sc.	Bachelor of Science
I.A.	Intermediate in Arts
I.Com.	Intermediate in Commerce
I.Sc.	Intermediate in Science
LL.B.	Bachelor of Laws
M.A.	Master of Arts
M.B.A.	Master of Business Administration
M.Com.	Master of Commerce
M.Ed.	Master of Education
M.Phil.	Master of Philosophy
M.Sc.	Master of Science
Pre-Univ.	Pre-University

DEFINITIONS

1. *Educational Pattern (10 + 2 + 3)*

It is time division for education received in schools and colleges, adopted throughout India. The first 10 years are for general education with a set of common objectives and scheme of studies with vocational stream at + 2 stage and 3 years education at tertiary level – general/professional/technical.
2. *Institute*

The term is used for recognized schools as well as colleges. A recognized institute gives a course of study which is prescribed or recognized by the Government (Central or State) or by a University or by a Board of Education constituted by law and which satisfy one or more of these authorities as the case may be, that they attain reasonable standard of efficiency. They are open to inspection and their students are eligible for admission to public examinations. All statistics in this report refer to recognized institutes only. Some unrecognized institutes give correspondence education also. Their number and enrollment etc. is unknown. They are also outside the purview of this report.
3. *INSAT IB*

It is Indian multipurpose satellite used for telecommunications, meteorology and radio. It provides radio and television services throughout India via 12 channels on C-Band frequency. In addition two S-Band transponders are also available. One of them is being used exclusively for national net-working and other provides direct broadcast from the satellite to small antennae in rural areas.

4. *Scheduled Castes*
Scheduled Tribes

Scheduled castes are under privileged classes specified by several Presidential Orders issued under Articles 341 and 342 of the Constitution of India. Scheduled Tribes are the tribal classes scheduled in 9th Schedule of the Constitution. Being backward communities, they are given privileges like fee concessions, stipends and reservation of seats in institutes, etc.

Distance Education in Indonesia

Prof. Setijadi
Universitas Terbuka
(Indonesian Open University)
Jakarta, Indonesia

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THE NATIONAL CONTEXT

A. Socioeconomic Development

1. Economy

Indonesia is now in the middle of its Fourth Five-Year Plan (Repelita IV 1984–1989), but it is also in an economic crisis due primarily to the drastic decline in oil prices and the world economic slump. This year (1986) Indonesia has experienced its first budget cuts in more than 20 years of economic progress.

Indonesia still faces a relatively high population growth rate of more than 2 per cent per year. With a population of 169 million, this poses considerable problems in creating employment. There was also the problem of high underemployment rates, averaging about 42 per cent among the less educated in the rural areas and 22 per cent among the educated in the urban areas. These tend to be persons who, because of their illiteracy, cannot be absorbed by the public or private sector.¹

The Indonesian economy has grown at an average of 7 per cent a year during the past 20 years. The economy is still overwhelmingly agricultural. It will be very difficult for Indonesia to reach a growth rate of 5 per cent a year in the future as stipulated in Repelita IV unless labor productivity is increased rapidly, external markets for its basic commodities are open, and prices of those commodities are stable. The debt burden of Indonesia, although still within manageable levels, required the country to be aggressive in international trade.

2. Population

The young population still grows at an annual rate of 2.9 per cent in the 1970s, making up a large part of the population in the 1980s in the working age group. During the 1970s, employment opportunities expanded faster than the labor force. However, in the 1980s, employment opportunities were overtaken by the labor force, making unemployment and underemployment grow. According to a World Bank report, employment is more of an urban phenomenon, particularly true for young graduates from secondary schools.² Underemployment is most apparent in rural areas where there is scarcity of land, and therefore of job opportunities.

¹ IEES, *Indonesia, Education and Human Resources Sector Review*, April 1986, Jakarta, Ministry of Education and Culture, Chapter 2, p. 23.

² *Ibid.*, p. 22.

Table 1: POPULATION, POPULATION TEN YEARS OF AGE AND OVER, LABOR FORCE AND EMPLOYMENT BY SEX AND REGION 1971 & 1980 ('000)

	1971			1980		
	Urban	Rural	Urban & Rural	Urban	Rural	Urban & Rural
<i>Males</i>						
Population	10,383	47,896	58,279	16,442	56,510	72,952
Population 10+	7,246	31,802	30,049	11,964	39,389	51,333
Labor Force	4,435	22,396	26,832	7,177	27,823	34,999
Employment	4,217	21,767	26,184	6,967	27,519	34,486
<i>Females</i>						
Population	10,382	49,798	60,181	16,404	57,421	73,825
Population 10+	7,372	34,006	41,378	12,131	40,976	53,108
Labor Force	1,655	11,613	13,268	2,915	14,196	17,110
Employment	1,580	11,446	13,026	2,812	13,893	16,705
<i>Both Sexes</i>						
Population	20,765	97,965	118,460	32,846	113,931	146,777
Population 10+	14,618	65,809	80,427	24,095	80,366	104,460
Labor Force	6,091	34,009	40,100	10,092	42,018	52,110
Employment	5,796	33,414	39,210	9,780	41,411	51,191

Source: Indonesia Education and Human Resources Sector Review, Jakarta, Ministry of Education and Culture with USAID, 1986, Chapter 2, p. 22.

B. Development of Education

1. Literacy

Literacy programs as such do not exist anymore in Indonesia. What is called the A (learning) package was intended as functional educational program leading towards an equivalent Primary School Certificate. Part of the contents was still basic literacy, but the A package went beyond basic literacy into the teaching of Bahasa Indonesia as the national language, and some general knowledge. The total content of the A package is different from the primary education curriculum. It was based more on practical knowledge about mixed farming than knowledge about geography and history. After completion of the A package, a student can sit for a primary school certificate equivalency examination. The certificate was considered by the Government

as equal to a regular primary school certificate. However, it was not recognized by the junior secondary schools so that holders of the certificate had also to obtain the regular primary school certificate. In many cases, holders of those certificates enter additional courses with the PAMONG primary schools to obtain regular certificates (the PAMONG primary schools will be described later).

When compulsory education was introduced in 1983, the A package was considered one of the avenues accepted as part of compulsory education. It was therefore justified to say that the A package was primary education in a non-formal mode rather than literacy program. The students of the A package programs were mostly adults, but young dropouts from primary schools may also enter the program. In some remote areas where schools were not available, the A package was an acceptable substitute for entering primary schools.

2. Formal Education

Although entrance age at primary education was formally still six years, the formal definition of the primary age group since the 1970s was 7-12 years. Obviously the Government was very serious in achieving universal primary education as soon as possible, and places at primary schools were only gradually becoming available. Six-year-olds could enter primary schools if there were no competing older children for the same places. The rapid increase in primary school enrollment became apparent since 1974 when the windfall from oil prices made the rapid expansion of primary schools possible. By 1986, 95 per cent of the population between 7-12 years old was enrolled at primary schools.

There was every indication that primary school enrollment was already reaching a plateau. In some provinces (e.g. East Java) there were reports that some schools in certain districts have experienced a decline in student population. These were areas where family planning was most successful.

The problems associated with educating disadvantaged children were particularly difficult to solve. The physically handicapped needed special schools or special programs within regular schools. Except in a few places and in large cities, no such programs or schools existed. Statistics about this group of children were also unreliable. There were also children living in remote areas. The Government has already taken steps to address this problem by creating small schools.

But by far the most difficult problem to solve is the care for the economically disadvantaged children. Although there were no formal school fees, these children were needed to help their parents at home or

in the land. This is where the A package might help since learning could be done in the evenings.

About ten years ago, the Government started experimenting with the PAMONG primary school project. This INNOTECH (a regional center of the South East Asian Ministers of Education Organization) -initiated project became successful as a flexible alternative to primary schools. Using self-instructional materials, parents, community leaders and teachers as resource persons and supervisors, the student could learn anywhere, anytime. The PAMONG schools were later expanded to East Java and Bali. At a later stage of development, the first three grades of the PAMONG schools were not well-developed since the A package was more accessible and easier to complete. However, grades 4, 5 and 6 of the PAMONG were in high demand because dropouts were high after grade 3 and A package graduates needed further training to obtain primary school certificate which only PAMONG schools could offer. The PAMONG schools could very well be categorized as distance education at the primary level since the instructional materials were developed by a central organ. However, implementation of the program was decentralized.

Primary school programs were generally efficient although provincial differences were large. Student-teacher ratio in 1986 was estimated at 25:1 and student-classroom ratio at 28:1. Almost 50 per cent of the student population were girls. The proportion of women teachers was also on the increase. In 1986 it was still below 40 per cent, but judging from the graduates of teacher training schools, the proportion will be more than 50 per cent in the near future. Dropout and repetition rates were declining during the last 15 years to around 3 per cent and 10 per cent, respectively. In rural areas the dropout and repeaters rate was generally higher than in urban areas.³

Since primary school enrollment slowed down for the past several years, the need for more teachers was also declining. Teacher training programs were not easy to stop, causing an overall surplus of primary school teachers which becomes larger over the years. In certain provinces and in remote areas teachers were still difficult to recruit, since teacher migration from a surplus province to a minus province was difficult to arrange, primarily because women teachers were very reluctant to move beyond their own province. Not many teachers, men or women, wanted to go to remote areas, although some incentives were offered. There seemed to be a need to train people native to certain

³ IEES, *op. cit.*, Chapter 1, p. 30.

remote districts as primary teachers to be sent back to their districts after graduation. Some experimental projects were already undertaken with some districts and the Government planned to build teacher training schools as near as possible to districts with teacher recruitment difficulties.

Primary education has expanded very rapidly, pushing the expansion of secondary education. Since universal primary education is top priority, secondary education expansion could not keep up with demand. With primary education reaching saturation, funds for the expansion of primary education could be shifted to secondary education expansion. With the recent economic recession still influencing the budget, the chances for doing so are dim.

Secondary education is divided by two levels, junior and senior secondary schools. At the junior secondary level most schools were general secondary schools, Sekolah Menengah Pertama (SMP) and only a handful were vocational and technical. At the senior secondary level, where the majority were general senior secondary schools (SMA), proportionately many more vocational and technical schools existed. The Government was pushing for more vocational and technical schools at the senior secondary level in order to meet the demand for more skilled manpower. The creation of many new vocational and technical schools may hamper the rapid expansion of secondary schools.

At the same time the general secondary schools have to teach more vocational and technical content to enable graduates who could not or would not continue education as a basis for further skill training. The implementation of this vocational training, without the necessary teachers and equipment, was difficult to do.

In addition to pre-vocational, technical and general subjects, the Government placed also a heavy emphasis on moral and ideological training. This created a proliferation of courses. Seventeen courses have to be given to senior secondary school students in almost all semesters. Efforts to reduce the number of courses to have a more effective curriculum have not been successful.

The rapid expansion also reduced the quality of training. A comparison of established and new schools indicated a gap in performance of the students. It was estimated that the average performance of new schools, or schools in more remote locations, and established schools were more than three points on a ten-point scale. This lowering of performance was expected, since the purpose of creating more schools at a rapid pace was to meet social demand and to pacify students who could not get employment. They have no other place to go.

Therefore the Government has placed a heavy emphasis on quality

improvement of the school system. The new Minister of Education and Culture has established a basis for the improvement of quality programs in his three-point program policy calling for stabilization of curriculum, a higher level of administration efficiency, and the involvement of a broader cross-section of lay persons to advise on the development of education policy.⁴

At the lower secondary level, SMP is the general institution currently enrolling over 45 per cent of its cohort and still expanding. At present, the general public and private secondary schools together enroll 98 per cent of the total population of lower secondary students with only small enrollments in the home economics junior secondary school and the technical junior secondary school. There were almost twice as many private schools – more than 9,000 compared to the 5,000 public schools. Lower secondary school enrollment was approximately five million students, with the public sector enrolling about 55 per cent or 2,850,000. Female students were slightly under 45 per cent of the total enrollment. There were approximately 150,000 full-time teachers of whom two-thirds were in the public sector. There were approximately 115,000 part-time teachers of whom only about 6,000 were in the public sector. The lower secondary system was in 1985 producing about 1,200,000 graduates a year who are candidates for admission to the upper secondary school system.⁵

The upper secondary school sector consists of the general secondary school (SMA), economics (SMEA), home economics (SMKK), technical (STM), primary teacher training (SPG), and sports teacher (SGO) schools. The total SMA enrollment was approaching two million, about 60 per cent of which was in the private sector. The graduates from the private and public sectors were about even, at 200,000 each. Starting in the second year, the students were divided into science, social science and language streams. The science and social science streams were approximately equal; the language stream was a very small portion. Of the total 130,000 upper secondary school teachers, only 30 per cent are in the public sector, but the majority of full-time teachers are in the private sector. Of the 20,000 full-time senior secondary teachers in the private sector, only 3,000 are supported by the Government.⁶

There was a completely separate religious education system, managed by the Ministry of Religion. The number of their public schools was small, but the private religious schools were much more numerous.

⁴ The present Minister of Education and Culture's first official policy statement after his inauguration 1985.

⁵ IEES, *op. cit.*, Chapter 1, pp. 36–37.

⁶ *Ibid.*, p. 38.

These schools taught 70 per cent general subjects and only 30 per cent religious education. Recently this learning towards general subjects was questioned by the Minister of Religious Affairs, who prefers more religious education in the curriculum.

During the revolution against the Dutch between 1945–1950, Indonesia had established the first National University, the Gadjah Mada University. At present Gadjah Mada University is the biggest regular university in the country with about 25,000 students. After the official transfer of sovereignty from the Dutch in 1950, another university was inherited from the Dutch Government. This university became the University of Indonesia. Out of these two universities, the Government established 45 public universities, most of which were created almost overnight in 1964 by a decree of the President of the Republic.

Student enrollments have multiplied rapidly from 10,000 in 1950 to 850,000 in both public and private universities in 1986. Slightly more than half of the enrollment is in private universities. By 1990 Indonesia expected to have 1,200,000 students at the tertiary level. The number of teaching staff at public universities is about 24,000. The Government made every effort to increase teaching staff to 48,000 in 1990. To keep pace with the demand, which was estimated at 12 per cent a year, the Government created the Universitas Terbuka (Open University) in order to accelerate access to tertiary education without too much dependence on the number of teaching staff. With the Universitas Terbuka accepting almost a limitless number of students in the coming years, the goal of accepting 1,200,000 by 1990 may be exceeded.⁷

Rectors of higher education institutions should be responsible directly to the Minister of Education and Culture, but day-to-day affairs were reported to the Directorate General of Higher Education. Since the Government wanted to establish one tertiary education system, all public and private institutions were regulated by the same laws and similar policies.

The mission of higher education was increasingly questioned. On the one hand, it did not produce enough manpower needed for priority areas of development, but on the other there were many university graduates who could not find work. Higher education was defined as any post-secondary education, therefore it should also take care of polytechnic education. During the last ten years polytechnic education has been one of the top priorities in the development of higher education. Seventeen polytechnic institutions, also called non-degree faculties, were built and integrated within 17 universities. It was intended to

⁷ The goal for Universitas Terbuka was officially set for 150,000 students by 1988. In 1986 this goal will probably be achieved already.

build another 17 by 1990. In addition to regular universities, there were ten teacher institutions, two technical institutions and one agriculture institute. Teacher training institutions were training teachers for secondary education. Primary school teachers were trained at senior secondary level teacher training schools.

What is here referred to as professional education is education given outside the Ministry of Education and Culture and outside the military. The number of institutions and programs were many and it was difficult to describe all of them. To understand the extent of this type of education, one has only to remember that the Ministry of Education and Culture had only less than 50 per cent of the total allocation of the education sector, the remaining was distributed among the other ministries.

The Ministry of Religious Affairs was almost a duplication of the Ministry of Education and Culture. It established primary schools (Madrasah Ibtidaiyah), junior and senior secondary schools (Madrasah Tsanawiyah and Aliyah), teacher training schools (PGA and PGAA) and universities (IAIN). During the past ten years, the development of the IAIN was restricted to Islamic religion, otherwise it would have developed into a full-fledged university.

Another ministry with schools at the secondary level was the Ministry of Agriculture. This Ministry has agriculture high schools and veterinary high schools.

The Ministry of Health has the nursing schools, the assistant pharmacist school and nursing college. It also has the teacher training college for nursing.

Many other ministries have their own schools and colleges, too numerous to mention. No review has been made on the education sector outside the Ministry of Education and Culture. Even the most comprehensive document on development, the Five-Year Plan, did not say much about the existence of these schools and colleges.

They continue to exist and, despite efforts to rationalize these schools and colleges, they proliferate. The original aim of the educational institutions outside the Ministry of Education was to upgrade their own staff and to meet the demand for manpower for their own ministries. At present they take on training fresh graduates and graduating people far more numerous than their ministries can employ.

3. *Non-Formal Education*

Officially, non-formal education was restricted to those types of training programs supervised by the Directorate General of Out-of-

School Education Youth and Sports (Diklusepora). However, there existed a large group of non-formal education programs known as *penatarans* (short courses) executed by ministries and other government agencies. These short courses received a relatively large portion of the budget of each ministry.

According to an education sector review, non-formal education supervised by the Directorate General of Diklusepora is the largest and arguably the most effective large-scale national non-formal education in the world.⁸ It served a large and diverse clientele in a variety of settings. Over two million people were enrolled in the Government's major non-formal programs in 1986. The largest portion of these enrolled in community learning groups for improving literacy and income (kejar). The Kejar Program was an expansion of primary education and could be used to satisfy compulsory primary education requirements. Through the Kejar Program, the Government planned to reach 17 million people, including 12.3 million illiterates and 4.7 million drop-outs.

The government efforts included the distribution of 89 million booklets for Kejar (A package) during the Fourth Five-Year Plan. The use of radio and other mass communication channels was intensified. Program planning capabilities were improved, as well as facilities and technical support.

Private non-formal education has also developed rapidly in answer to the need for more skills in certain fields of employment. These private efforts were supervised by the Government, but clear policies and good management will be required to really support the private non-formal sector to develop into useful training programs for the society.

4. Education and Training Priorities

Primary education was still at the top of the list of priorities in education. The purpose was to enroll all of the 7 to 12-year age group in primary schools. Indonesia has achieved considerable success in this. In 1986, almost 95 per cent of the age group enrolled in primary schools. However, dropout rates were still relatively high in rural areas, making alternative routes to primary education necessary. There was still a considerable number of illiterates beyond the age of 12 and these people should also be encouraged to attend primary education. It was therefore

⁸ IEES, *op. cit.*, p. 56.

appropriate to develop the Kejar A package as an alternative to formal primary education.

The last 5 per cent of the 7 to 12-year age group was from hard-to-reach groups. These were groups from remote areas, and children with physical or mental handicaps. The Government has to provide special arrangements to enable them to go to schools. Small schools and integrated schools for the handicapped have been tried out, evaluated and expanded.

C. Major Problems and Issues in Education and Training

1. Introduction

The formal categorization of problems and issues in education centered around access, efficiency, quality and relevance. However, to make it more meaningful, some other categories will be added such as financing and management. If relevant, problems and issues will be mentioned by levels and types of education. In some cases this would be a repetition, since these are similar.

2. Access to Education

In the early 1940s, before the war started in Asia, there were only a handful of schools and a few colleges. Many of the schools and all of the colleges depended on Dutch teachers. Not many Indonesians could afford to study. The school system was also built according to the social strata developed by the colonial masters: schools for the indigenous population, schools for overseas Asian immigrants, and schools for the Dutch and other Europeans. With this kind of heritage, it is no surprise that even today despite remarkable achievements, the system is comparatively less developed than that of its neighboring countries.

After independence, the demand for more education became intense. Even during the five-year war of independence, new schools were established, in many cases only with makeshift facilities. Expansion of schools continued at a faster rate after the war, and since the economic conditions at the time did not support expansion, it was up to local communities to build schools. After the building was completed, the community could request the Government to take over the school. The Government provided teachers and their salaries, but not much else. Schools were run with shoestring budgets, therefore quality suffered. But access to education increased rapidly until the early 1960s. Inflation was rampant and government monthly salaries could only sustain families for about two weeks. Local communities were no longer able to

build new schools. The primary student enrollment increased only slightly. The First Five-Year Plan was inaugurated in 1969 with practically no budget for primary schools. The total primary development budget was only Rp40 per student-year, yet unrealistic targets were set.

Towards the end of the First Five-Year Plan, a windfall from increased oil prices was partly directed to the expansion of primary schools. During 1974 alone, 52,000 primary school teachers were appointed and new schools were built. Primary school enrollment increased. A special Presidential Instruction (INPRES) Program was inaugurated. There was a big surplus of primary school teachers. This surplus was used for the new schools. But teacher training schools continued to produce teachers at a fast rate in the 1980s when primary school enrollments started to decline, thus there was again a huge surplus of teachers without work.

The expansion of secondary and tertiary education did pose the problem of teacher shortage. Indonesia was producing many more primary teachers than it could absorb, while at the secondary and tertiary levels teacher training could not keep up with the demand. Various crash programs for secondary teacher training were developed to increase the number of teachers at a faster rate. At the tertiary level such programs were considered prohibitive.

While primary and secondary schools grew very fast, tertiary level institutions increased only at a marginal rate, making access for increased numbers of secondary school graduates to tertiary level education increasingly more difficult. In 1986, there were about 82,000 places in government higher education institutions for more than 486,000 applicants. The number of applicants could actually be considerably higher since only those who applied for government entrance examinations were counted. The number of graduates from senior high schools in 1986 was more than 900,000. In addition, there were graduates from previous years who have re-applied for tertiary education. The Universitas Terbuka was introduced to alleviate the problem of shortages of places at the tertiary level.

During the Third and Fourth Five-Year Plans, the Government also emphasized rapid expansion of vocational and technical schools to meet the demand for more skilled workers. This expensive and controversial decision had deflected resources away from general secondary school development. The Government believed that building more technical and vocational schools could produce more employable graduates, while general secondary schools could only produce graduates who wanted to go to college, or who could not find work because they lacked the desired skills.

3. Internal Efficiency

During the 1950s and early 1960s internal efficiency was not an issue. It was taken for granted that a student who could not pass an examination should not be promoted. The blame for such a failure seemed entirely with the student. In university circles it had an added meaning: some professors took pride in not passing students easily because their courses were tough and should not be taken lightly by the students.

By the middle of 1960s, the Government became concerned with low productivity of schools and universities. Dropout and repeater rates were high. Education planning and systems analysis were introduced in the Indonesian bureaucracy. The economics of education was influencing decision makers. Something had to be done about it.

The process of planning and implementing actions to reduce dropouts and repeaters was slow. It was only in the middle 1970s that Indonesia saw its dropout and repeater rates declining; first in primary and secondary schools and later in tertiary level institutions. The situation in 1986 was much better, dropout and repeater rates at the primary level were similar to other developing countries. At the higher levels the decrease in dropout and repeater rates were also considerable.

Utilization of existing facilities was normal at primary and secondary levels, but recent studies showed that a lot of waste facilities existed at the government higher educational institutions.

4. Quality of Education

Rapid expansion of schools has produced a lower quality of education in spite of government efforts to achieve quality at the same time as quantity. Short teacher training courses were established to keep up with the demand for more teachers, facilities at schools were minimal, good teachers tended to concentrate in certain schools, and no incentives were offered to attract teachers to work in rural areas. All this has produced a large gap in performance between "good" and "bad" schools, the number of "bad" schools being much larger than that of "good" schools. At the higher education level the same trend could also be detected.

Although automatic promotion and graduation at the primary and secondary level was never stated, the tendency was to promote and graduate as many students as possible. This has caused a lowering of the quality of achievement in general. At the tertiary level, efficiency gains were slower and were generally not achieved by lowering standards but by more efficient administration of instructions and examinations.

5. Financing of Education

Financing of education was mostly the responsibility of the Government. There were no fees at the primary level and only token fees at the secondary and tertiary levels. However, in 1986, the government budget has shrunk and higher student fees were allowed for tertiary education. In some cases fees were increased by 100 per cent. The following year might be even more difficult for the Government to give heavy subsidies to schools and still keep on expanding. There were already talks to reinstitute fees at primary and allow higher fees at secondary schools.

The Government has also extended subsidies to private schools and universities in the form of government paid teachers and instructions. Fees at private schools and universities were much higher than that of government schools and universities. Heavy financing went to technical and vocational schools and polytechnics, making financing for cheaper general schools less available. With budget cuts, the financing of the educational system will be much more difficult, unless different priorities and different policies are adopted.

6. Management of the Education System

The management of the education system was top down, in line with overall government management. Such forms of management can only be successful if the right information from all parts of the country is available for decision making. This information is sometimes unavailable or outdated, making decisions difficult to implement. Indonesia has therefore put efforts into creating a solid base for an integrated information system.

In-service training programs for teacher and administrative staff were not integrated with career advancements. This has made the training programs less effective and also less attractive. Any success of the in-service training programs might be due to the honoraria paid to the participants of the programs.

DISTANCE EDUCATION IN INDONESIA

Distance education was started in 1955 with the establishment of a correspondence course for the upgrading of teacher competence. This course was largely theoretical in nature with the production of correspondence materials and formal paper and pencil examinations. The end result was a diploma which could be used for the advancement of the careers of teachers. Despite its success in attracting participants, the course was later abandoned due to lack of funds. Distance education as

correspondence education was firmly established in the people's minds.

In the early 1970s another trend started with the introduction of educational technology. At that time oil prices were still low and Indonesia was still contemplating on how to expand primary education in a country with a GNP of \$200. Two experimental programs were prepared to test the feasibility of using radio programs for primary education. It was first intended to use radio programs for direct teaching to the students. Before the start of the program, oil prices went up in 1974 and the Government decided to use a substantial amount of the additional oil revenues for education, especially primary education. The experimental program was subsequently revised, since the Government could already afford to expand primary education in the conventional way: by building schools and hiring more teachers.

There was still the problem of ensuring quality education in a process of rapid expansion. Many primary school teachers in service had only one to three years of training beyond primary education. They were in need of in-service training programs to upgrade the quality of their teaching. Therefore, one of the educational radio experiments was revised for primary teacher in-service training. This experiment was successful and later expanded to 14 provinces. The concept of distance education as radio education was born. Agriculture extension programs and other non-formal education programs were following this trend of educational broadcasting.

At about the same time another program, initiated by the South East Asian Ministers of Education Organization (SEAMEO), was developed. This program was based on the use of self-instructional materials in combination with teachers, parents and community resources. This more sophisticated and innovative approach has taken a long time to mature. A similar program was developed for secondary schools (Sekolah Pembangunan).

In the early 1980s, access to tertiary education became an important problem for the Government. The number of new places at the tertiary level fell far short of the demand for those places. Hundreds of thousands of applicants could not enter decent government or private higher education institutions each year. In 1983, the Government decided to establish an open university, and the Universitas Terbuka was formally opened in September 1984. This university incorporated all previous experiences and new innovations such as correspondence education, self-instructional materials (including kits), radio and television programs. The concept of multimedia distance education was born. This concept was supplemented by using community resources (library, tutorials) and computer-scored examinations.

At this stage another experiment was planned in which the Institute for Teacher Training (IKIP) in Jakarta will use self-instructional materials of the Universitas Terbuka to introduce an on- and off-campus teaching. The off-campus teaching can use the Universitas Terbuka self-instructional materials and the on-campus teaching will use regular face-to-face teaching. The aim of the experiment was to reduce cost per student and to enable IKIP Jakarta to take more students. If successful, this effort will blur the difference between "distance" and "regular" education since both will be using the same delivery systems, but with a different mix. Thus a more convergent concept of distance and regular education will hopefully be accepted.

In spite of spectacular progress in education, 88 per cent of the workforce has only primary education and therefore does not qualify for skilled jobs. For every two openings there were ten applicants. It is in the development of human resources that distance education should have an impact.

In primary education and in non-formal education such as agriculture extension, nutrition and health education, the impact was already felt. The Government has established a domestic satellite system, linking all the islands together. One of the two most important purposes of the system was educational broadcasting and telecommunication. The system has been used for all kinds of informal and ad hoc instruction, mediated by radio and television broadcasts. However, solid continuous use of the media for instruction was still rare, the reason being the expense of developing good instructional programs for radio and especially television. With the introduction of study programs in educational technology at various teacher training institutions, the know-how of developing instructional programs was developed.

A. Radio In-Service Primary Teacher Training Program

1. Aims and Objectives

Since the beginning of the Second Five-Year Plan (Repelita II) in 1974, the Government has implemented a series of in-service training for primary school teachers. The cost of the training and the difficulty of reaching teachers in remote areas necessitated the development of in-service training by distance means. It was decided to use the radio as the main delivery system since the technology was relatively simple and the cost relatively low. Radio can also reach almost all parts of the country at low cost.

A pilot project was initiated by the Government with UNESCO.

The pilot project was actually designed to use radio to teach selected courses to primary school students. The plan was subsequently changed to experiment with both direct teaching to students and in-service training to teachers. Two provinces were selected: Central Java which would be the site for teacher in-service training and Yogyakarta which would conduct direct teaching to students. The experiment began in 1973 and ended in 1976. Evaluation results indicated that direct teaching would be too expensive to implement, with only a small improvement in student learning. It was considered better to improve student learning through in-service training of teachers. The Central Java experiment indicated that teachers were willing to participate in the radio training programs.⁹ Improvement in the teachers' subject matter content and teaching methodology should have a positive impact on student performance. The need for in-service training by distance means and the positive results of the in-service radio programs made the Government decide to implement the radio teacher in-service programs to 11 provinces, including Central Java and Yogyakarta. The nine other provinces were selected because of their difficulty in transportation. It was difficult to have in-service training in any other way since many primary schools existed in remote locations. At a later stage three other provinces were included in the project.

2. Instructional Strategy

The method of delivery was radio supplemented with print materials, to arrive before the radio programs started. During the course of development and experimentation, other media were used to complement the print and radio instructional programs. Audiocassettes were first added to be sent to groups which missed some of the radio lessons.

At a later stage an attempt was made to add some face-to-face training to the distance teaching programs. This face-to-face training was of short duration and used slide presentations to augment lectures and discussions. Teachers who already participated in face-to-face programs were also followed up with radio programs to continue their training. In this way the differences between face-to-face and distance programs disappeared.

The strategy for combining text and radio was selected over radio only, or radio vision because by having the text a teacher could have all

⁹ Natakusumah, Sinwari, Papay, James and Pigawahi, Markus, *In-Depth Study of In-Service Education Through Radio Broadcast for Primary School Teachers*, Jakarta, Department of Education and Culture, Center for Communication Technology for Education and Culture, 1981.

the notes he would want to make so that his time would be devoted to listening to the radio lessons. The text was also used as ready reference material so that explanations through radio could be reduced.

This strategy worked well. An interesting finding was that individual listeners demonstrated greater learning than group listeners when tested on the content. However, groups in general helped maintain enthusiasm, especially in rural groups. About 73 per cent participated regularly, showing a high interest of teachers in the program.¹⁰ The 1979 evaluation was too early to judge the long-term effect of the project. But the fact that the program still exists and is enlarged to include three more provinces indicated that it was successful. The number of courses covered also increased from five in 1978 to eight in 1986 consisting of 320 radio programs. The target was to reach 80,000 primary school teachers with the radio in-service programs.

3. Management Control

To control radio programs from the center seemed to be easy. Distributing text materials over a very large area from the center was formidable. Nevertheless central control was maintained since decentralization was more difficult to implement. In areas where the programs were implemented, no printing facilities existed and sending materials from Jakarta proved easier than sending materials from cities nearer to the locations. Some responsibilities were given to the regional offices of the Ministry of Education and Culture at the provincial level. Questions concerning administrative matters asked by participants were answered by the regional office through local radio broadcasts. The same office also arranged face-to-face training if opportunity arises with support from mobile training units organized by the center.

Questions about content were sent to the central office which delegated the answering to two central units located in Central Java and Yogyakarta. These units sent the answers by audiotapes to the regional office for broadcasting.

All programs were free of charge, therefore, no financial administration was needed at the local level. The headmaster of each school was responsible for ensuring that his teachers participated in the programs by forming listening and study groups. No examinations and no incentives were given to the teachers who successfully participated until 1986. (In 1986 the first examination was given to participants.) Motivations to study depended on the currency of topics. When a new curriculum

¹⁰ *Ibid.*

was introduced, attention was high. Over time, the newness disappeared and routine training became boring. It was difficult for the headmaster to control and sustain enthusiasm for the program over a long period.

Seventy-five per cent of all programs were revised by the center each year to insert new contents. No attempt has been made to evaluate the result of this constant revision to attract the attention of participating teachers.

4. Production and Distribution of Materials

Production of programs was done by the central organization: the Center of Communication Technology for Education and Culture (PUSTEKKOM). This center had two branches in Central Java and Yogyakarta. These three combined units produced radio and text materials for the training programs. Printing of text materials was done in Jakarta and reproduction of radio tapes was contracted to a semi-government firm in Solo. Materials were sent to the sites through a courier service up to a provincial or district capital town depending on the ease of further delivery to the local sites. In others with many islands, district capitals were selected. In provinces the provincial capital was used. From thereon school supervisors carried the text materials to the local school for delivery. Cassette tapes were delivered to provincial or district radio stations for broadcasting.

Late delivery of text materials to local schools was common, since distances were considerable and roads were bad. Opportunities to visit schools were also rare, therefore the center provided additional travel funds to the regional offices to enable school supervisors to visit schools as early as possible after the text materials were delivered to the regional office. It has taken some months to deliver text materials from the center to some of the remote locations. First, the distribution was done by sea to a district capital. From there onwards the shipment was carried by small boats or by any other means available and, if necessary, by foot.

The post office was not used for delivering the text materials because at that time (in the 1970s) its capacity to reach remote areas was still very limited.

5. Broadcasting and Production Facilities for Radio Programs

There were four categories of radio broadcasting in Indonesia. The first was the National Broadcasting located in Jakarta, the second was

called Nusantara Broadcasting which were located in five major cities of Medan, Yogyakarta, Ujung Pandang, Banjarmasin and Jayapura. Combined, Nusantara Broadcasting could cover most parts of Indonesia. The third category was the regional broadcasting which was limited to one in each province and was located in the provincial capital. The fourth were the local broadcasting at the district level and local relay stations built for remote rural areas.

The radio in-service training used mostly regional and local broadcasting facilities. In many locations it was also using local government radio stations which were not controlled by the national radio system (RRI). Regional broadcasting stations have generally 10,000 watts of transmission power or more, while local broadcasting stations were generally weak.

At the receiving end 2,500 radio receivers were distributed to schools at the beginning stage. More receivers were subsequently distributed. Reception of broadcasts varies from very weak to excellent. More than 50 per cent of the listeners in rural areas complained about poor reception some of the time.

6. Quality Control

The weakness of the system was its lack of quality control. No regular evaluation of the program was made. The reason given for this lack of evaluation was that such programs cannot be evaluated on the basis of increases in knowledge only. The impact of such programs was long term, and the fact that it was continued for so many years indicated that the program was something of a success. The only evaluation effort was in 1979 during the formative stages of the program.

There was also no assessment made to measure the progress of the participants until 1986. Many in-service training programs in Indonesia were not connected with career development. This radio in-service program was no exception. Motivation could not be kept high without some kind of assessment or feedback. It would be better if the training was related to their future careers, which would definitely have improved learning and performance.

The assessment conducted in 1986 was in the form of open book examination about the content of the course. It was sent to all participants to complete without supervision. Of the 80,000 examination papers sent, only 9,970 were returned and 3,323 participants passed. Since the examination was not supervised, the criterion for passing was a rather high, 85 per cent correct.

A certificate would be issued but no formal value was attached to

the certificate. There was no indication on how the certificate could help to foster the teachers' career.

7. Organization and Management

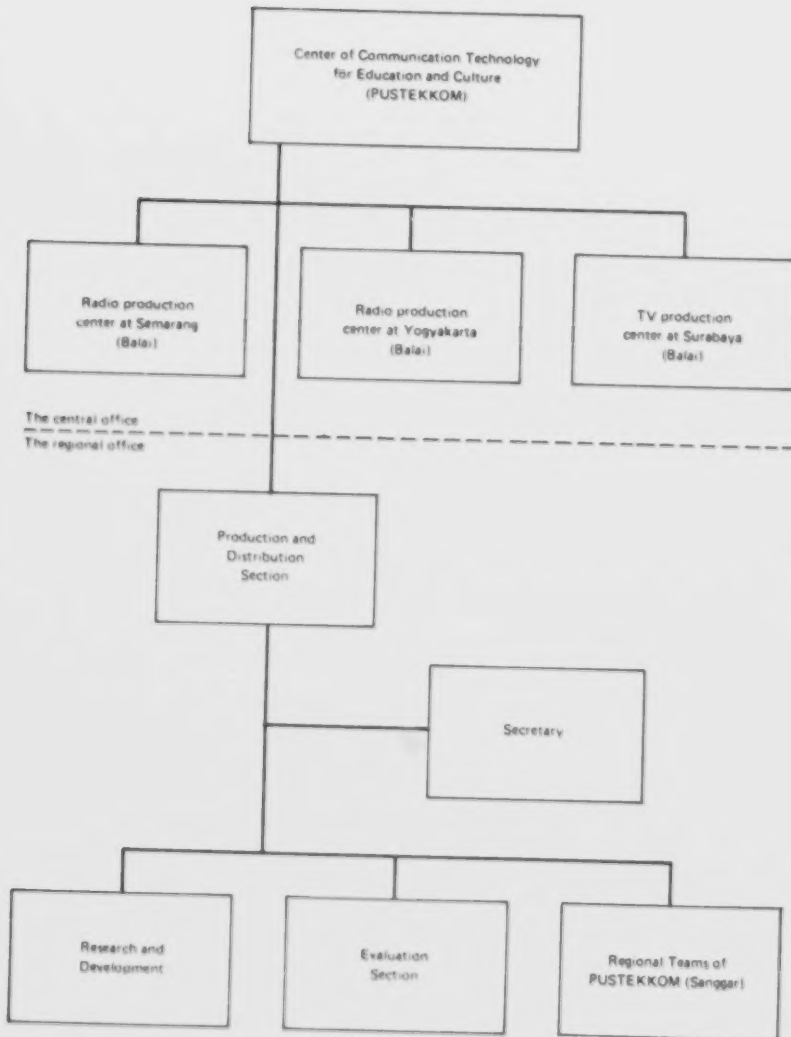
In August 1975, based on the successful results of the Central Java experiments, the Minister of Education and Culture decreed that educational broadcasting would be used in support of the Development of Primary Education Project (P3D), primarily because radio broadcast could be easily sustained over a long period and remote areas could also be covered. P3D itself had a mobile training team which traveled from place to place to provide face-to-face in-service training; however, this training program was necessarily of short duration (12 eight-hour days). A follow up of this training program could be provided by radio broadcasting. In addition radio broadcasting could also be used for the in-service training itself in places where it was difficult for the mobile training units to reach.

Within the Ministry of Education and Culture there was a Center of Communication Technology for Education and Culture (PUS-TEKKOM). It was decided to place the responsibility of implementing the educational broadcasting in this center while the P3D belonged to the Directorate General of Primary and Secondary Education.

In 1976, a Ministerial decree established an Executive Team of the PUSTEKKOM. In addition, four National Task Forces, later called the *Balais*, were formed to do the production and reproduction of radio programs, production and printing of text materials, and the distribution of those materials. The *Balais* were placed in Semarang, Yogyakarta, Surabaya and Jakarta. The Jakarta Balai was later upgraded to become a Center (Pusat) and became the center for managing the whole radio broadcasting project. With additional functions this center became PUSTEKKOM. In each province P3D and PUSTEKKOM activities were coordinated by the same regional office (Kanwil) so that in the field smooth cooperation between the two separate activities was ensured (see Figure 1).

At the regional offices, Regional Teams of Communication Technology for Education and Culture were also formed. These Regional Teams were later called *sanggars*. The main objective of the *sanggar* was to support, develop and supervise the use of educational broadcasting for primary teachers to use broadcasting for conveying government policy on education, to distribute receivers and text materials, and to receive and process feedback from the field. The *sanggar* had to report to PUSTEKKOM for technical matters but administratively belonged to the regional office.

Fig. 1: Organizational Structure
of the Radio In-Service
Primary Teacher Training Program



Source: Sirewi Natakusumah, et al. *In-depth Study of In-Service Education Through Radio Broadcast for Primary School Teachers. A Case Study Report*, Jakarta, Department of Education and Culture, 1981.

The *sanggars* had three sections, one for production and distribution, another for evaluation, and a third for research and development. The management of the system was more complex because it involved another ministry which was the Ministry of Information. Agreements between the two ministries had to be signed and communication channels established at the center as well as in the provinces. In practice no significant problems were encountered in the relationship during the years of cooperation.

B. The Universitas Terbuka

1. Introduction

Universitas Terbuka is the Indonesian name for Open University. Since there were already some open universities in the Asian region and in other parts of the world, it should best be called by the original name to distinguish the Indonesian institution from similar institutions in other parts of the world. Thailand has the Sukhothai Thammathirat Open University and India, the Indira Gandhi Open University. When questioned about a specific name for the Indonesian Open University, the then Minister of Education and Culture, Professor Nugroho Notosusanto replied that in the foreseeable future there should only be one open university in Indonesia, therefore the university should be simply called Universitas Terbuka.

2. The Establishment of the Universitas Terbuka

In 1981, the Government started two distance education projects which later formed a part of the Universitas Terbuka. The two projects were intended to give in-service training to teachers of secondary and tertiary level institutions. In the 1950s the Government also created correspondence education to upgrade teachers already in service. The link between distance education and teacher in-service training was not accidental since the rapid expansion required the Government of Indonesia to establish "crash programs" for teacher training in order to keep up with the demand for additional teachers. There were subsequent needs for upgrading the skills of those teachers which could only be met with distance education, since regular training was too expensive and replacing the teachers for further training was difficult to do.

The decision to start the Universitas Terbuka came late in 1983, after the Government hesitated to establish an unconventional university for fear of low quality performance. In the meantime, the continued

demand for university places and the slow increase of intake at the regular universities made postponement of the Universitas Terbuka impossible. The Preparation Committee was given only nine months to establish the Universitas Terbuka.

It was decided to build the simplest system of distance education possible using available means. The two small distance education projects for teacher training should remain as they were, integration should be attempted at a later stage.

The system that was eventually decided upon was:

- (i) a uniform curriculum for everyone taking the same program;
- (ii) using the post office as delivery points for course materials and also as a bank for accepting fees from students;
- (iii) using existing government higher education institutions as regional offices;
- (iv) using word processor letter quality-printer outputs as camera-ready text for printing;
- (v) using the University of Indonesia computers and computer programs to process registration and examination; and
- (vi) requesting nationally known professors to write the course materials.

There was no time to try out the course materials and calibration of multiple choice examinations. Registration and examinations were processed by the University of Indonesia's optical scanners and the results recorded by their computers. The students had to go to the designated post office for registration, receiving the course materials and paying their fees and course materials. Afterwards they had to confirm their registration at the regional office, receive further information about tutorials and examinations and about how to study in a distance education setting.

The course materials were generally the work of individuals rather than teams. The team approach was used only to develop the curriculum. Even this was mostly taken out from the existing government regulated minimum curriculum. After the curriculum was agreed upon by the team, the team proposed writers for the course materials. The first task of the writers was the design of the Basic Course Outline (BCO). On the basis of the BCO, the materials were then subdivided into modules.

It took about six to nine months to complete the writing of a course, one month for review and revision and another two weeks for preparing the text for printing. At least half of all the courses were ready for

delivery by the opening of the Universitas Terbuka on 4 September 1984. The other half of the courses was sent to the post office at a later date.

Applications to enter the university were overwhelming. About 270,000 persons applied. The plan to accept 25,000 students in the first year of operation was later revised by the Government to 65,000. Eventually about 60,000 students actually registered after some kind of selection process was applied.

The expectation was that many of the registered students were recent graduates from senior secondary schools; however, more than 75 per cent of the registered students was already employed. The purpose of lessening the pressures of demand by recent graduates for university places could therefore not be met. There was the possibility that recent graduates, before entering the Universitas Terbuka, might seek employment first. If this was the case, the same student would enter the Universitas Terbuka only after employment.

The opening ceremony was held in September 1984 at the Presidential Palace since the Universitas Terbuka did not have a building of its own at that time. The temporary quarters were small and inadequate and borrowed from the Teacher Training Institute in Jakarta. The ceremony was attended by the President of the Republic and some ministers of the Cabinet, and nationally televised. A well-known economics professor started an introductory course on economics immediately after the opening ceremony. This high profile ceremony helped the Universitas Terbuka to be known throughout the country. It also helped the acquisition of a permanent site for the Universitas Terbuka within a relatively short time.

Politically, the Government wanted to show that it was serious in developing the Universitas Terbuka as an alternative to regular universities. By creating the Universitas Terbuka the access to higher education was improved dramatically. It was now up to the Universitas Terbuka to prove that it could become a respectable university.

3. Aims and Objectives

The rapid expansion of junior and senior secondary schools and the low labor absorption capacity of the economy have made it necessary to increase the intake into higher education. Private higher education institutions demanded high fees while the Government higher education institutions could only take about a third of the demand for higher education. It was therefore decided to establish an open university. The Universitas Terbuka was therefore created first of all to have better

access to higher education especially for the recent graduates of the senior high schools.

The economic expansion also needed more university graduates which could not be met by regular universities. Participation rate of the 18 to 25-year age group at higher education level in 1983 was estimated at about 5 per cent, and the target to be reached by the end of the Fourth Five-Year Plan was 8.5 per cent. No matter how big the investment in higher education had been, it was considered impossible to reach the target primarily because it would take some years before instructors could be trained for the tertiary institutions. It was also difficult to find trainable persons who wanted to devote their career at tertiary level institutions since the attraction of work in private corporations was very great. It was therefore necessary to increase the participation rate at the tertiary level without too much dependence on academic staff. The second important role of the Universitas Terbuka is therefore to train increasing numbers of students in areas demanded by the economic and cultural development of the country.

The rapid expansion of secondary schools demanded more and more teachers which the existing regular programs could not provide. It was therefore decided in the late 1970s to have short-term teacher training for secondary school teachers with the intention of upgrading their skills at a later stage. It was impossible to give those teachers further training at the teacher training institutions because they could not be replaced. All new teachers were used to teach at new schools. The only alternative was the upgrading of skills and knowledge of teachers through distance education. In 1981, a distance education project for the upgrading of secondary school teachers was established. This was to become the third objective of the Universitas Terbuka, i.e. upgrading of secondary school teachers who graduated from the short-term programs to enable them to obtain the full teacher-training degree.

Strangely enough cost was never mentioned as a consideration for creating the Universitas Terbuka. It was understood that the Universitas Terbuka will cost less to operate. However, the Preparation Committee did not want to emphasize cost because in the early years of development the Government had to invest a considerable amount of funds for the development of the physical facilities of the Universitas Terbuka if the University was to deliver high quality education. The Government might not want to emphasize cost for fear that the Universitas Terbuka would be regarded as a cheap university and therefore not of the same quality as a regular university.

In the thinking of the decision makers the Universitas Terbuka could not provide courses which have practicals since it did not have the

means to do so. The emphasis of the Universitas Terbuka was on social sciences and mathematics rather than on physical science and technology. This was hampering the Universitas Terbuka in obtaining funds.

In relation to private universities, the Universitas Terbuka was expected to provide an attractive alternative for students who wanted higher education at any cost. This would prevent the proliferation of low quality private universities.

In the course of development, it was discovered that Universitas Terbuka's course materials were used by many private and government tertiary level institutions. The course materials were a welcome addition to the dearth of textbooks in the Indonesian language. Since the course writers were carefully selected the quality of the course materials was relatively high. It was this fact that made decision makers consider the course materials standard for government examinations to obtain university level government certificates for private university students. However, there could be resistance from the examination committees towards this goal since it could be looked upon as a threat to their "academic autonomy".

Government universities could use the course materials to introduce the on- and off-campus study program in which students could partially study by themselves off campus using Universitas Terbuka course materials, and partly on campus for tutorials and practical experiences. An agreement has been reached with IKIP (Teacher Training Institute) Jakarta to start developing new courses for use in the on- and off-campus mode. In this way the student intake could be increased without adding new buildings.

4. The Instructional System of Universitas Terbuka

The Universitas Terbuka decided to use print materials as its primary instructional delivery system. Other media should be used as a complement to print materials. Certain course contents such as language pronunciation could be delivered only in audiocassettes. The reason for using print materials as the primary medium was the low price and the relatively simple process of production. The short preparation time and limited resources available made this decision necessary.

After two years, the Universitas Terbuka tried to introduce more materials in other media especially for the transmission of practical skills such as teaching and science laboratory skills. It remained to be seen how this effort will succeed in the future.

Given the very short time for course preparation and given the possibilities of late coming drafts and their repeated corrections, it was

decided to use word processors. Apple-compatible computers were chosen because of price and availability. Maintenance was also an important consideration for using the Apple II+ compatibles. For the software the Wordstar was selected because at the time it was the most sophisticated software available, suitable for the type of publishing needed. Training for the word processors was easier than anticipated although electricity was unreliable due to voltage surges and blackouts.

Typesetting was out of the question during the earlier days since time was pressing and no typesetting machine was available which was able to accept the computer's output. Letter-quality printers were used to print the final drafts. In this way printing time could be reduced to two weeks.

Since every student following the same program received the same course materials, the printing could benefit from the economies of scale. At least 5,000 copies were printed of each course. The size of the print materials followed the standard 21 x 28 cm format to make handling by students easy but at the same time made the most efficient use of paper. Except for a multicolor cover, the content of the materials was printed in black and white to reduce costs since the Government did not subsidize the cost of printing. The price of the course materials, although far below similar commercial textbooks, already included royalties of course writers.

A particular font was selected (Prestige Pica 10) and spacing between lines was maintained at 0.4 cm to produce the most legible print. No research has been conducted so far to confirm this. A typesetting machine was acquired which could accept the computer's output and transform this into the desired typeset fonts and layout formats. In this way no retyping was necessary. The development of desktop publishing has made the interface between the computers and the typesetting machines easier with a direct link between the two machines. Such a direct link has been found and used between the Apple MacIntosh computers and the linotype typeset machine and soon Apple II computers will have similar linkages. Illustrations and graphics should also be made easier in the future with increased graphics capabilities of small computers.

Print and audio materials were sent to students by post. In the first two years the students had to take the course materials from the post office but beginning September 1986 a new administrative system was introduced. The main characteristics of the new system were: year-round registration; students may take their choice of courses within limits posed by the curriculum; course materials shall be sent to students' homes; and examinations of all courses offered will be held three

times a year. The delivery system became, therefore, much more complicated. Before the new system was introduced every student within the same study program received the same course materials at the post office. It was far less complicated to pack and deliver the course materials. After the new system was introduced, registration and payment for courses have to be administered and recorded separately for each student. A large computer had to be purchased to allow easy management and recording of such a mass of data.

The course materials were packed individually on the basis of computer printouts of addresses and course materials purchased. Not everyone wanted to buy course materials for every registration. Those who did not want the materials for one reason or another could do so.

After the students received the course materials, they could start the study. Universitas Terbuka encouraged them to form study groups with fellow students living in their vicinity. It was hoped that the study groups would encourage learning and that difficult parts of the study materials could be easily understood.

Survey results indicated that there were at least two variations of study groups. One group studied on their own and another group hired a tutor to help them with understanding of their course materials. It was perhaps the latter group which caused a drop in attendance at tutorial sessions.¹¹ By hiring their own tutors they could select good tutors, better than the tutors provided for them by the Universitas Terbuka. They could also ask the tutors to go over examination questions so that the students would be better prepared to take examinations.

More than one thousand study groups were in existence and, since the Universitas Terbuka provided services to answer their questions by mail, many inquiries have been made on academic as well as administrative matters.

Prior to the completion of the home assignment and the semester examination, students can attend tutorials. It was expected that tutorial sessions would be used for helping students to overcome difficult parts of the course. Tutorial sessions were mostly unpopular and attended only by a small fraction, of about 10 per cent of the student population.¹² The attendance rate at the beginning was high, more than 80 per cent, but soon it dropped to the above level except for certain courses or certain popular tutors.

¹¹ Djalil, Aria. *Research on Tutorial Systems*, Universitas Terbuka, Jakarta, Universitas Terbuka and IDRC, 1986, p. 15.

¹² Recently, Aria Djalil reported orally that tutorial attendance dropped even further, from 14 per cent during the third semester to about 10 per cent the following semester.

There was a corresponding increase in the establishment of study groups. Some students claimed that study groups were more effective in providing assistance to the students than tutorials. At any rate, study groups could have more frequent meetings and the meetings could be held in their vicinity. Many students have to travel longer distances to reach less frequent tutorials.

Private tutorials with relatively high fees were also established by enterprising university graduates. Their fate depended very much on their services and the fees they asked. Some private tutorials were successful, others died after a few attempts.

It was difficult in many places to find qualified tutors. Even in places where there were universities not many tutors could be found for certain courses. Training of tutors could not be conducted regularly because of the high cost. An attempt has been made to conduct tutor training through self-instructional materials and voice communication. The result of this training has yet to be assessed.

The best strategy could be to rely more on study groups and assist the study groups with services for answering questions through mail. There were plans to provide study groups with additional reading materials since the Provincial Libraries did not have the recommended reading materials. The feasibility for providing reading materials have to be studied.

Two alternatives were considered during the preparation period before the establishment of the Universitas Terbuka. The first alternative was centralized control in which everything except tutorials should be controlled by the central office. The second alternative was to have the central office control only course development and examinations. Everything else, registration, record keeping, tutorials, finances and other administrative matters should be controlled by regional offices or by participating universities.

It was decided to choose the first alternative because it was considered easier to implement and control. With a short preparation time decentralized control was much more difficult to implement. The eventual roles assigned to the regional offices (there were 32 of them) were tutorials, some student services and supervising examinations. At first, some parts of the registration process were also assigned to the regional offices such as checking the accuracy of student data and issuing student identification cards. In the new system, those functions were taken over by the central office. For many students it would be difficult to travel to the regional office. In the new system, those functions were handled by mail, therefore the students need only to send registration forms back to the central office for processing.

The tutorial and student service functions should be strengthened at the regional offices; however, recruitment and training of qualified staff were difficult. Indonesia lacked skilled university graduates. These people were already employed or can command employment in better paying jobs. All of the academic and most of the administrative staff of the regional offices were part-timers. It was therefore difficult to organize strong student service units.

There were several media used to convey instruction but the most important medium was print. Print was selected because it was cheap, flexible and for most purposes, adequate. With graphics and illustrations, powerful visuals could be created which could enhance learning. Color prints could also be used to attract attention; however, at this early stage it was considered too sophisticated and expensive to produce.

Audiocassettes were used extensively to provide variations to learning through print and to highlight important parts of the course materials. Audiocassettes were not expensive to produce; therefore, they could be given to each student. However, not all courses could benefit from audio presentations. With the old system students had to go to a certain post office to obtain the course materials and pay for them. In the new system course materials were packed and distributed to students by post. At the time of writing the new system had just been introduced and there had been no cases of undelivered materials reported yet. From past experiences, the fear was that about 15 per cent of the materials would not reach the students. The reason given by the post office was that the addresses of the undelivered materials were unknown to the post office. Students living in rural or city slum areas were requested to consult the nearest post office before writing their addresses. If no way could be found for easy delivery to a student's address, the use of a post office box was recommended.

The services provided by the post office, which included the administration of student fees and the distribution of examination materials, were generally satisfactory. The security precautions taken in relation to the distribution of examination materials were adequate. So far, no leakages of examination materials were reported.

Audio and video materials were broadcast through government and private radio broadcasters and through the Government's only television station. Radio time could be provided in accordance with the needs. Television time was given only twice a month for 25 minutes each. Other times which could be used were from early in the morning until 1630 hours in the afternoon at which time the regular television programs started. The cost of broadcasting any courses beyond the

allotted 25 minutes each fortnight had to be borne by the Universitas Terbuka. Until the present time the financial means to use more television broadcasts is not available.

Indonesia's communication needs were substantial. Thousands of islands spanning a very wide area were integrated into one country and one nation. The students of the Universitas Terbuka lived in all parts of the country. Students at remote locations could not be reached easily by ground transportation from the regional offices. All of this indicated the urgent need of the Universitas Terbuka for various types of communication means available in these regions. Sometimes new communication channels have to be established because the old channels are not adequate.

All possible channels to communicate inexpensively with students and regional offices were used. Apart from the postal services which were already adequately covered in the previous section, telex was used for urgent data transfer and administrative matters. The use of telex services was limited because only about half of the regional offices had telex machines. It was not easy to set up telex machines at the regional offices; therefore, an attempt to use computer networks was tried out with some success. The problem lies in the low quality of the telephone network. Although Indonesia had an excellent domestic satellite system, the ground telephone lines were already antiquated and full of noise interference.

In areas where telephone lines were good, a point-to-point communication with amplification was used for tutorials. At one end, the tutor talked from a microphone attached to the telephone and at the other end, students could receive clearly the voice of the tutor through a loudspeaker. The students could talk back to the tutor using the same arrangements. Telephones were of course used frequently for transmitting urgent messages to regional centers. The cost of long distance telephone calls was still expensive in Indonesia compared to that of more developed countries. A special rate was arranged for the point-to-point tutorial telephone conversations.

Telephone lines were also used for satellite communications between 11 universities in the eastern part of Indonesia and the Directorate General of Higher Education in Jakarta. The system is similar to teleconferencing in its ability to communicate with all 12 at the same time. However, besides voice communication, the system was also able to present still pictures and facsimile. Universitas Terbuka was using the system to train tutors at all of the 11 sites.

Since telephone costs were relatively high, tutorials were also conducted at a distance through single side band (SSB) two-way radios.

A tryout of the system has almost been completed and there were plans to expand the SSB radio to other places if the tryout was successful.

Inexpensive media for communication were the newspapers and magazines. Press conferences could provide communication channels to reach students in a short time. Newspapers and magazines were eager to print news and articles about Universitas Terbuka because it increased their circulation. With more than 100,000 students the Universitas Terbuka was a big market for the mass media.

The assessment of students' progress was a difficult task for a university with a very large number of students and no academic staff of its own. How could such a university grade papers or have oral examinations? How many persons should it hire to do the job and at what cost? It was therefore decided to employ mass assessment methods without dependence on people for grading. The solution was to use multiple choice questions which could be graded by computers. This applied to home assignments as well as self-evaluations, although self-evaluations were graded by the students themselves.

This less than ideal solution was criticized by some academicians as very inadequate to assess students' progress. No way has been found to employ other methods of assessment at the earlier stages of their student years. Dropout rate was very high and therefore the number of students would decrease dramatically when they reach their third year and beyond. Practical work such as practical teaching and laboratory work also needed to be assessed differently. A special team was assigned to study the matter and the trial of new assessment methods was expected to start in 1987.

The development of the examinations themselves was not all in accordance with good test development practices. The exam writers were usually the course writers, but if more exam items were needed another person with the same academic qualifications was hired to write more exam items. Peers were then requested to review the items for content validity and correct writing. Many exam writers were mediocre at first, but through training and experience they have improved. No items were calibrated before use since time was always pressing. An item bank was set up to calibrate items after use, revise and store items for reuse. Five hundred courses should have been offered during the 1986-1987 academic year, therefore about half a million test items had to be written to have sufficient stock of items for this particular year which could be used for self-evaluation, home assignments and examinations. The examination items were usually given away after use but with the new system exam items were recalled for reuse.

The nature of the Universitas Terbuka organization is a network of

participating institutions. Some participating institutions were serving Universitas Terbuka within the limits of their major responsibilities. The post office was an example of such an institution. Other institutions had to go beyond their major responsibilities to assist Universitas Terbuka. Such institutions were the regular universities, which had to give some of their staff and facilities to help Universitas Terbuka function. It was with the latter type of institutions that careful relationships were established. The regular universities did not receive overhead cost from Universitas Terbuka. The only material advantage of having Universitas Terbuka's regional offices within their campuses was the opportunity for their staff to earn extra income.

The institutions involved in the operations of the Universitas Terbuka were:

- (i) the central office of the Universitas Terbuka which determined plans and policies, develop and produce course materials and examinations, and process students' data;
- (ii) the 32 regional offices of the Universitas Terbuka located in 32 universities which were responsible for the tutorials, student services and the supervision of examinations;
- (iii) the post offices, which accept registration and fees, and distribute course and examination materials;
- (iv) TVRI (the National Television Network), RRI (the National Radio Network) and private radio networks, which broadcast courses and other information to students;
- (v) the Center of Communication Technology for Education and Culture, which produced radio and television programs;
- (vi) newspapers and magazines which report useful news and other information to students;
- (vii) the Telecommunication and "Inti" Corporations which assist the Universitas Terbuka in building telephone, telex, computer and SSB radio networks;
- (viii) the provincial and local governments which facilitated the operations of the Universitas Terbuka and in some cases, also gave additional funding;
- (ix) the regional offices of the Ministry of Education and Culture which facilitated the use of schools for tutorials, examinations and laboratory work;
- (x) the Center for Library Development and the Provincial Libraries which provide library facilities to students; and
- (xi) the Computer Science Center of the University of Indonesia which trained Universitas Terbuka staff and operated the

Universitas Terbuka computer during the first years of operation.

Managing such a diverse network required frequent meetings and constant communications between the central office and the participants of the network. Informal agreements were as important as formal ones. Since speed of decisions was crucial, special staff members were assigned to keep the communication channels open.

The most important relationship was between the central office and the regional offices or between the Universitas Terbuka and the participating universities. The authority for some important matters such as the determination of who should be the officers of the regional office rest with the rectors of the universities involved. Matters related to the administration and operation of the regional centers were also supervised by the rectors. The regional offices had enough autonomy to implement the guidelines in their region. They were able to respond adequately to specific challenges in the operation of the Universitas Terbuka in their respective regions. There were some problems of consistency between national directives and regional implementation, however, these problems were minor in comparison to the benefit that regional autonomy has brought.

There is no clear government plan or policies with regard to the development of distance education in general. The Fourth Five-Year Plan mentioned only the Universitas Terbuka in a few sentences in relation to government's efforts to increase access to higher education. At the end of the Plan, in 1988-1989, the Universitas Terbuka is expected to enroll 150,000 students.

The PAMONG schools (Open Primary Schools) and the SMP Terbuka (Open Junior High Schools) have existed since the mid-1970s as experimental projects, but the Government has still to decide what to do with these innovations. The PAMONG project received some support for limited implementation in Bali and East Java. In a modified form (small schools) it became part of the national effort to implement compulsory education. However, it was clear that no consistent policies were developed with regard to the implementation of distance education except for the Universitas Terbuka.

The reasons for this lack of plan and policies may be due to the oil revenue windfall in 1974. At that time, the PAMONG school was already planned, however, the plan was almost abandoned because the Central Planning Agency (BAPPENAS) decided to build traditional primary schools in large numbers every year since then. Innovations were not necessary since money was available to build traditional

schools. Although the Government subsequently allowed some experimentation with distance education projects, they were never allowed to expand except for the in-service teacher training. This exception was understandable since it was the only alternative to reach teachers in remote areas.

The reason for the establishment of the Universitas Terbuka was not cost, but teachers. Expansion of higher education was difficult because it took a long time to train the teachers. In addition, many able university graduates did not want to remain at their universities because business and industry offered jobs with much better salaries. Universitas Terbuka is the only university which can utilize existing university manpower resources to enroll more students, therefore the Universitas Terbuka was established.

The recent economic recession may cause some changes in the thinking of decision makers in education. The success of Universitas Terbuka in delivering quality education may be very important in convincing people that distance education should be regarded an alternative.

Universitas Terbuka was also regarded as a major rival of private universities, although the facts suggest otherwise. None of the better private universities have difficulties finding good students. Some of the less qualified private universities now use materials developed by the Universitas Terbuka as their major curriculum. The possibility of using Universitas Terbuka course materials as standard text for private universities was contemplated.

RESOURCE IMPLICATIONS OF DISTANCE EDUCATION

Distance education needs at least a core of managers and administrative staff to run the programs. In a country where a second (part-time) job is permissible, academic staff could be hired from other institutions.

The two distance education institutions covered in the case studies, the Radio In-Service Teacher Training and the Universitas Terbuka, have used both full- and part-time staff. The full-time staff consisted of managers of administration and managers of instruction. The managers of administration were almost like any other administrative staff but the managers of instruction were people with special skills in educational technology. Although the managers of administration need also a certain depth of understanding of the system's operation, they did not have to possess educational technology skills. Supporting skills were also

needed, such as research, computer operation and programming communications, text processing, printing, warehousing and packaging.

The core part-time staff were the course writers and the tutors. Supporting part-time staff were the examination supervisors. These part-time staff members were people with expertise in the subject matter offered. An examination supervisor could be anyone who could be trusted, but in actuality instructors and teachers were used. The timing for the activities of the part-time staff is very important. Course writers could choose their own time to write. However, tutors and examination supervisors could work only on Sundays or in the evenings. The use of part-time staff was beneficial for both the distance education institutions and the staff themselves. The institutions could not easily recruit full-time high level academic staff, and the academic staff could supplement their meager salaries with part-time earnings.

Since distance education usually covers the entire country, local staff in rural areas whether full-time or part-time is difficult to recruit. If local people could be found, they usually need extensive training. If local people could not be found, staff from other locations usually urban, travel to the rural area. This involves travel, accommodation and other costs. Where funds did not permit staff to travel to the location, the student had to travel to a center for assistance or examinations.

The absence of staff could, in some cases, be overcome by a two-way communication system. Tutorials or administrative matters could be handled from a distance by two-way radios, telephone, letters or other two-way communication channels. Radio operators and maintenance personnel, telephone operators, secretarial staff with word processors for handling large amounts of mail, were employed and trained. Distance education can be simple or complex, depending on the quality of the service provided to the participants. The higher the quality of services, the more complex the system becomes. This complexity requires highly trained manpower.

The physical facilities required depend on the sophistication of the distance education system. A very crude system may require very little. This requirement can easily be satisfied with existing buildings, especially if some of the workload is contracted out to other institutions.

Basically, the two cases reviewed required a central office for administration. At first, the central office used existing facilities available at the Ministry of Education and Culture and at the Teacher Training Institute in Jakarta. At a later stage the need for expansion of full-time staff required a separate office with some specific requirements.

Course production required space and equipment for draft production, typesetting and printing. Volume printing was given to commercial

printers since the costs and the management of a large printing shop was considered prohibitive. Draft production required word processors for easy correction and revision. Typesetting was done by using letter quality printers attached to the word processors. At a later stage a typesetting machine which could accept text from the word processors was used. The facility for typesetting was considered necessary since course writers could not always meet deadlines and last minute typesetting was required. Commercial typesetters could not handle emergency typesetting unless a heavy price was paid.

Course materials were not limited to print materials but were supplemented with audio and video materials. At a later stage kits and laboratory facilities will be used. In both cases, a production center for audio and video materials was built. The requirement for such a facility depend on the quality of the programs planned. It could be as simple as the one the Universitas Terbuka has built or as complex as the production facilities of the UK Open University. The production of kits should be given to commercial producers of laboratory and workshop equipment.

Distribution of the course materials required space for storing and packing of course materials. The distribution itself was better handled by commercial freight forwarders or the post office. Storage and packing facilities became substantial with tens of thousands of participants and expected to grow to hundreds of thousands. A warehousing and packing space of 5,000 sq km was planned for the Universitas Terbuka when more than 200,000 students registered. The actual need may be more if, at a later stage, laboratory and workshop kits were developed and distributed to students.

Registration and record keeping required the use of computers and optical scanners. A mainframe computer and fast optical scanners will soon be purchased by the Universitas Terbuka to replace the present mini-computer. This required airconditioned and especially designed building. Manual record keeping was not practical when options to use automated processing facilities were available. The computers and scanners were also used for exam and data processing.

The development of examination materials required special facilities to ensure security. Ideally, the building should be separated and can only be accessed by authorized personnel. The Universitas Terbuka built a separate examination building with small printing facilities. Printing of exam papers required special security not available at commercial printing shops. The Government printing facilities could handle security printing, however, the cost was prohibitive.

Communication facilities are important for distance learning institutions. The communication technologies available in the country should be used to the full extent possible. Universitas Terbuka is at

present experimenting with amplified teleconferencing facilities, two-way SSB radio and computer networking. The telephone and computer network will be facilitated by the domestic satellite system.

The mail is still the cheapest and most available communication system in Indonesia and is used extensively by the Radio In-Service Program and the Universitas Terbuka. There is a separate post office facility at the Universitas Terbuka campus.

Distance education, once established, may keep on expanding for quite some time. After two years of operation, the Universitas Terbuka should have at least 125,000 students (registration was just started at the time of writing) and may still expand rapidly several years from now. This will require additional space for staff expansion. The Radio In-Service Program was already at a steady stage with 80,000 participants and facilities were already available. The Universitas Terbuka is still at a formative stage. At present the central office building space is just enough for about 560 staff the University has so far recruited. At the steady state 3,000 staff members were planned requiring a fivefold increase of the present facilities.

The facilities needed in the field might be more formidable if study centers were required. Until now only regional offices were established, using existing facilities. The need for tutorial and examination space was currently met with existing facilities of schools and universities. Access to library study materials was almost impossible, since universities were reluctant to open their libraries. The regional and local libraries do not hold many study materials.

The initial outlay for distance education institutions can be substantial. Once the necessary facilities are established, the operational cost on a mass scale should be relatively small.

The Universitas Terbuka budget was cut drastically because the physical facilities were already considered adequate, so the operational budget should be the responsibility of the students. There was no other way but to increase student fees. The price for the course materials remained the same. Since fees were very low, the 100 per cent increase did not cause a drop in enrollments. On the contrary, a sharp increase was expected for the 1986-1987 academic year.

There were no data available for the Radio In-Service Program. No fees were required from the participants and face-to-face meetings were financed by another project. Only one examination was given, that was during the last fiscal year. All financial data from this project were coming from the late 1970s. The comparison of radio and regular programs at that time could still be useful today. It was calculated that at

a fixed cost of Rp200 million only 7,680 teachers can be trained by traditional methods, whereas radio can train 21,060 teachers.¹³

There was no comprehensive study made on the cost of education at the Universitas Terbuka. The budgetary procedure was such that it would not be easy for any one to make a thorough study on the cost. The development budget has only scant connection with the routine budget and the student fees were treated differently. Course material fees were managed differently and did not relate to student fees, development or routine budgets because it was managed by the university's cooperative. It was up to the university's management to integrate the budgetary pieces.

The estimated routine, development and student fees budget for academic year 1986-1987 was around \$11 million. This estimate was based on the routine budget of \$1.3 million, the development budget of \$1.7 million, and the estimated student fees of \$8 million. Of this budget \$4 million was allocated to 32 regional centers for tutorials, exam supervision and overhead. \$7 million was allocated to the central office for activities indicated below:

	(in US\$ million)
Course development	1.7
Printing and distribution (except course materials)	1.2
Staff salaries	1.4
Buildings	0.75
Communication and media development	0.5
Registration and records	0.6
Others	0.85
Total	<u>7.0</u>

Course materials were sold and managed separately. With the new system students were not required to buy the course materials. If a student buys 12 credits of course materials, he or she has to pay about \$35. Of this amount, 50 per cent went to printing, 6 per cent to royalties, 10 per cent to the post office for handling the course material fees, another 8 per cent for mailing, 5 per cent for packing, 21 per cent for overhead and a small profit. Since the new system was just inaugurated in August 1986, there was no way to estimate the amount of course

¹³ *Ibid.*

materials purchased by the students. Within a year an average student should be able to take 24 credits. Of the \$11 million, almost 73 per cent were coming from student fees. If 70 per cent of the student buys 24 credits of course materials and some 125,000 students registered, then another \$6.3 million will come from the students, making the percentage of student contribution to the overall domestic budget close to 83 per cent. This analysis did not include funds coming from the World Bank and other donors, which was estimated at \$2.5 million. This budget was mostly used for overseas scholarships and fellowships, consultants and some equipment.

It can be safely assumed that the government budget could only cover course development and buildings, plus the basic salaries of the government employees. All other expenditures could be covered by the students.

Table 2 gives a summary of unit costs of regular and distance education institutions. These costs were taken from different reports, therefore the comparison can only be crude approximations.

The cost per graduate or "cycle cost" should be a better indication for comparing cost. However, data on cost analysis of distance programs were made prior to graduation of the first cohort, therefore the cycle could not be estimated. The comparison of the Teacher In-Service Training is the most valid, since the two figures were derived from the same study using the same formula for calculation.¹⁴

The annual cost of the Universitas Terbuka was multiplied by 1.5 since students took a lighter study load so that they will finish the cycle in six years instead of the normal four years of study at regular universities. The Universitas Terbuka calculation should be higher if productivity rate is taken into consideration. A safe assumption is that open universities have a lower productivity rate than regular universities. How much lower could not be calculated before the first cohort graduates.

The PAMONG primary school, which formed the basis for calculating distance education at the primary level, was calculated on the basis of assumptions and estimates rather than expenditures.¹⁵ Romli Suparman's own calculation for regular primary schools' unit cost was lower than the PAMONG schools, making distance education more expensive than regular education. Since he did not elaborate on how he arrived at the calculations, the Sector Review figure was adopted for the unit cost of the regular schools.¹⁶

¹⁴ *Cost Analysis of Two Teacher Training Programs in Indonesia*. A report presented to Dr. Clifford Block, USAID Washington; prepared by D. Goldschmidt and A. Horley. Palo Alto: Edutel Communications and Development, Inc., 1979.

¹⁵ Suparman, Romli, *Laporan Kunjungan Participant Training Tim Cost - Analysis SD Kecil*, 1986.

¹⁶ IEES, *op. cit.*, Chapter 5, p. 128.

Table 2: COMPARISON OF ANNUAL UNIT COST BETWEEN REGULAR AND DISTANCE EDUCATION 1984-1985

Level/Type		Regular Education (Rp)	Distance Education (Rp)
1.	Primary	78,948	63,055 ^a
2.	Junior Secondary		
	a. General	107,300	174,826 ^b
	b. Vocational/Technical	107,300	-
3.	Senior Secondary		
	a. General	131,797	-
	b. Technical	176,724	-
	c. Teacher Training	149,894	-
4.	Higher Education		
	(Average Public)	399,000	138,900 ^c
	Medicine	501,000	-
	Natural Science	656,000	-
	Engineering	377,000	-
	Agriculture	270,000	-
	Economics	196,000	138,990 ^c
	Social Science	170,000	138,990 ^c
	Education	297,000	138,900 ^c
5.	Teacher In-Service		
	Training	43,674 ^d	49,721 ^d
		455 ^e	295 ^e

^a Taken from M. Romli Suparman. *Laporan Kunjungan Participant Training Tim Cost - Analysis SD Kecil*, 1986. This unit cost excludes start up cost and buildings.

^b 1982 figure taken from: M. A. Calvano and A. S. Sadiman. *Case Study at the Indonesian Open Junior Secondary School*, 1982.

^c Estimated expenditure of Universitas Terbuka in 1986-1987 fiscal year, subtracted by building expenditures, divided by 125,000 (students), times 1.5; converted to rupiah.

^d 1979 figures taken from: *Cost Analysis of Two Teacher Training Programs in Indonesia*. A report to Clifford Block, USAID, Washington, D.C. by Edutel Communications and Development, Inc., Palo Alto, 1979.

^e Same source as ^d, however this is calculated in unit cost per contact hour. Source: *Indonesia, Education and Human Resources Sector Review*, Jakarta, MOEC with USAID, Chapter 9, pp. 93-94.

Given these limitations, one can readily question the bigger costs for two of the four distance education institutes, i.e. the Open Junior High School and the Radio Teacher In-Service Training. The bigger unit cost of the Open Junior High School may be due to the small number of students (2,009).¹⁷ However, development cost, even if

¹⁷ Calvano, Michael A. and Arief S. Sadiman, *Case Study of the Indonesian Open Junior Secondary School*, January 1982.

divided among larger groups, cannot appreciably reduce the cost. Even if development cost is not included, the unit cost is still Rp158,055 – much higher than the Rp107,300 calculated by the Sector Review. Looking more closely, the biggest expenditure for the Open Junior High School is the printing cost, which stands at Rp112,000 per student, while the cost of textbooks for the regular schools was only Rp2,995. This big difference may be due to an underestimation of the cost of textbooks at regular high schools, which was estimated at Rp800 per book. Another estimate quoted by the Sector Review is Rp900. If small numbers of books are printed, the cost per textbook may be closer to Rp1,000. If this calculation is used, the cost per student is Rp10,000. For comparison purposes, this figure is more acceptable, since it may not use the economies of scale.¹⁸ The amount of modular textbooks used at the Open Junior High School is approximately ten times that of regular Junior High Schools. This amount of print materials needed for implementing the Open Junior High Schools is what scares decision makers away from it.

The same is true for the PAMONG schools. Unless a more efficient method for delivering courses through print materials is found, the project may be doomed to failure. PAMONG has been able to produce less bulky modular textbooks. The course materials were subsequently used for the Small Schools.

The comparison of cost for the Teacher In-Service Training uses two different indicators. One is cost per teacher trained and the other is cost per contact hour. The cost per contact hour may be a more reasonable measurement of output.¹⁹ The regular in-service training program has a duration of two weeks. The radio program is continuous and had already been implemented for two years by the time the study was made. Contact time in this case is the amount of time devoted to listening and discussion. Assuming that these activities have the same effect as regular face-to-face teaching, the two types of contacts are interchangeable. When contact hour cost is compared, the distance education mode is clearly more cost-effective.²⁰

¹⁸ IEES, *op. cit.*, Chapter 5, p. 108. This figure uses the same calculation for textbook cost per student at grade 3.

¹⁹ *Cost Analysis of Two Teacher Training Programs in Indonesia*, *op. cit.*, p. 14.

²⁰ *Ibid.*, p. 15.

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

The introduction of education technology in Indonesia has changed the concept of distance education gradually. Experiments in distance education were conducted but implementation of distance education on a large scale was very limited. At present only two large scale distance education projects are active. The first is the Primary Teacher In-Service Training and the second is the Universitas Terbuka (Open University). There are other distance education projects outside the Ministry of Education and Culture, such as the Agriculture Extension Services, which also provides some distance education services.

Distance education has elements of face-to-face relations. This combination of distance and face-to-face education and the use of all available communication technology has made distance education a true alternative to regular education.

Indonesia has had a domestic satellite system for almost a decade and telecommunication is developing very rapidly. But no extensive use of the satellite system for education was made. A recent effort by the Government, with the assistance from USAID, tried to develop an Indonesian Distant Education Satellite System (SISDIKSAT) with three communication components: voice interaction, graphics interaction and facsimile. After three years of trying the graphics interaction and facsimile, there are still some unsolved problems. Apparently, the ground cables of the telephone system which form an important part of the network was not appropriate for the system. The Universitas Terbuka is at present experimenting with microcomputers as an alternative for the graphics interaction. So far, results are encouraging.

This example illustrates the problems Indonesia is facing in using high technology communication channels. In a few years computer networking will be simple but this will only be available in big cities. Outreach to rural areas, although theoretically possible, will meet with unanticipated difficulties.

Course writers and tutors are hired from other institutions. In this way the best available people can be recruited and terminated according to the needs. In practice not all the best people can be recruited. Good people are scarce and in demand everywhere. For course writing, very good academicians cannot usually be found because their numbers are limited. Recruiting thousands of tutors is a different matter. In big cities there may be enough qualified persons to be hired as tutors. In small towns and in rural areas qualified persons are hard to find.

A related problem is the training of tutors. It is difficult and costly to train tutors in a face-to-face mode. The training of tutors through distance education only touches general attitudes and procedures. The content of the course materials are not discussed. Many unqualified tutors have difficulties in understanding the course content so that they have problems in helping the students. This may partially have been the cause of the unpopularity of tutorials.

Universitas Terbuka followed the National Curriculum which is standard for all universities. The courses within the standard curriculum are small segments and therefore numerous. For easy administration the courses should be integrated into blocks of courses rather than small segments to make them less numerous.

At this stage not much has been done to provide libraries, workshops, laboratories and other facilities for practical experiences. In the further development of distance education, such facilities should be provided and innovations employed to provide the facilities. Libraries may exist in townships and even in rural areas but they are stocked with books not relevant to distance education needs.

Regular universities have started using course materials developed by Universitas Terbuka since those were written by well-known professors and since books in Bahasa Indonesia (the national language) are not readily available. The course materials will also be used for on- and off-campus education in one of the Teacher Training Institutes. The course materials are still very simple in appearance and much can still be done to improve layout, illustrations and typesetting. The development of distance education institutions as producers of learning materials in Bahasa Indonesia for other purposes may benefit other educational institutions.

The post office, despite initial difficulties, proves to be reliable for distributing course materials. It can also be used for the administration of student and course material fees.

Distance education in Indonesia is not well developed. There is much room for improvement and expansion. In the past ten years Indonesia was blessed with a relative abundance of funds for education. At present and in the foreseeable future this abundance will not be there. However, the demand for education will always increase. The Government cannot afford to ignore this demand. There should be other more cost-effective ways to find a solution for this dilemma. Distance education may be one of the solutions. The recommendations will be addressed to the Government and international agencies.

B. Recommendations

Recommendation 1. The Government of Indonesia (GOI) should expand distance education pilot projects which already exist for some years.

These pilot projects include the PAMONG system at the primary level, the Open Junior High School, the SISDIKSAT at the tertiary level, and the on- and off-campus pilot project at the Universitas Sebelas Maret in Central Java. These projects were on the brink of extinction because of lack of funds. In the future, the GOI should pay more attention to innovations in distance education since these will help rather than hinder the development of the education system.

Recommendation 2. The GOI, with assistance from international agencies, should invest more to improve the quality of existing large-scale distance education projects.

Distance education may still be regarded as necessary evil. Access to education is not enough. Quality should be improved as well. Investment in quality improvement may be heavy in the short run. In the long run, economies of scale will reduce unit cost. Improvement of quality should be primarily directed towards improvement of student services, including tutorials; facilities for access to reference materials; modern communication channels for administration and delivery of learning materials; facilities for laboratories, workshop and for other practical experiences; test item banking, and alternative procedures for examinations. Almost all of these improvements could be connected with the development of study centers located in various places throughout the country. These study centers could be used not only for one type of distance education but for several types. Teacher training and other professional training, for instance, could use the same facilities.

Recommendation 3. The GOI, with assistance from international agencies, should conduct feasibility studies to explore the possibilities of using distance education for other formal and non-formal training.

Vocational and technical education could employ distance education means. Other high priority training, such as nutrition and nursing, family planning and environmental education, functional literacy

and the development of skills for small industries, should be explored.

Recommendation 4. Once the course materials are developed, the GOI, with assistance from international agencies, should explore other uses of those materials.

Such uses may include in-school and out-school education at primary, secondary and tertiary levels; usage of materials as standards for accreditation, as reference materials for other training programs or, in a modified form, as materials for new programs.

Recommendation 5. The GOI, with assistance from international agencies, should assist in the development of science and technology programs at the Universitas Terbuka.

Given the right investments, Universitas Terbuka should be able to develop science and technology courses, which were high on the priority list of national development. Resources for practical training should be identified and their cooperation assured. In some cases, Universitas Terbuka could develop its own resources. Investment should also be made to develop capabilities in the production and use of audio, video and other materials.

INDONESIAN CASE STUDY THE NATIONAL CONTEXT¹

1. The Social and Political Setting

Indonesia is the largest archipelago in the world, stretching more than 3,500 miles, with over 14,000 islands whose connecting water surface area is greater than its land surface area. Living on 6,000 inhabited islands are peoples from more than 300 ethnic groups speaking over 250 languages and from third grade is the language of instruction in both private and public schools throughout Indonesia. English is considered to be the second official language that is taught in the schools. All laws must be published in English as well as Bahasa Indonesia and many Indonesian policy makers speak English.

In this fifth most populous country in the world, 70 per cent of the people live on the densely populated islands of Java, Bali and Madura. Half the total population is under 20 years of age and 85 per cent still live in the rural areas. Wet-rice agriculture, which was developed over 2,000 years ago and gave Indonesian society the economic capacity to support the great kingdoms of Central Java, is the mainstay of Indonesian society. For many years, as the population increased, rice had to be imported; but in recent years Indonesia has again become self-sufficient. This status has been accomplished through the use of modern agricultural techniques, the development of healthier and more productive plants, the introduction of fertilizer, and the promotion of better irrigation methods. The phrase "Unity Through Diversity" evoked a persistent theme in the history of Indonesia. Coined in the fifteenth century in the Majapahit Empire of Java, which blended Javanese mysticism with Hindu, Buddhist, and Islamic elements, it is perhaps even more appropriate for contemporary Indonesia than it was nearly 500 years ago. Under Dutch Colonial rule since 1600, Indonesia proclaimed its independence on August 17, 1945. The Republic of Indonesia, comprised of 27 provinces and the special district of Jakarta, is a unitary republic led by an indirectly elected president. Indonesia is now governed under the Constitution of 1945 which gives broad powers to the President. The constitution also provides for a 460-member parliament (DPR), and for a 920-member higher legislative body, the People's Consultative Con-

¹ This article was taken from *Indonesia: Education and Human Resources Sector Review*, April 1986, Chapter 1. Coordinated for the GOI by the MOEC with USAID.

gress (MPR), which includes the DPR and additional members who are partly appointed and partly chosen on the basis of election results. The DPR is charged with making laws; the MPR is to set the main line of state policy and also to elect the President who is chosen for a five-year term and whose powers, in fact, far outweigh those of the legislative branch. In Indonesia the emphasis is on political consensus, unity, and guided political development. Competitive politics based on parochial interests are discouraged. The state ideology, Pancasila, is the central theme guiding political activity. Its principles are belief in one god, a just and civilized humanity, unity of Indonesia, sovereignty of the people, and social justice.

Indonesia has held three national elections since the establishment of President Soeharto's "new order" regime in 1967. Since its creation in 1971, the government-supported political party, GOLKAR, has won decisive national election victories with more than 60 per cent of the vote. Besides GOLKAR, Indonesia has two officially sanctioned political parties: the Unity Development Party (PPP), formed from four Islamic parties, and the Indonesian Democratic Party (PDI), composed of former nationalists and Christian parties. President Soeharto has won the endorsement of the People's Consultative Congress (MPR) four times. Enormous national resources and a growing, predominantly agrarian, population form the setting for Indonesia's economic development a process characterized by the complex interplay of traditional and modern forces and energized by the Government's commitment to industrialization. Substantial resources of petroleum, natural gas, tin, copper, coal, timber, and fish, complemented by a tradition of irrigated rice farming, have supported a diversity of economic activities. Because nearly 80 per cent of the population is still employed in small-holder agriculture or in small family-run enterprises, the per capita gross domestic product has remained low around \$500 during the early 1980s.

Stimulated by public investment made possible with revenues from oil imports, per capita production has expanded by over 5 per cent per year since 1970. The Government has also made impressive strides in improving the institutional framework for development, preferring the "top down" approach. The Government gradually extended the power of the bureaucracy to the lowest level of the economy where it introduced marketing cooperatives and other schemes for assisting the operations of private traders and farmers. It has supplemented this effort with the activities of state enterprises located strategically in almost every realm

of economic endeavor, especially in industry. The state controlled banking system provides subsidized credit to priority public and private enterprises. The Government invites foreign participation in selected industries and continues to solicit foreign aid through loans and grants. The influential planning apparatus, BAPPENAS, coordinates and manages these multi-faceted efforts. However, despite the enormous achievements of the 1970s and early 1980s, when technological change penetrated to the most remote areas in the archipelago and improved the average standard of living, the prospects for the 1980s and beyond are clouded by the unavoidable reality that unemployment, rural and urban, is bound to worsen as the pace of technological change quickens and more labor is freed from traditional agriculture. Most recently, as world oil prices have dropped, government revenues, and therefore development budgets, have been strained. Thus, the major task of the late 1980s will be the construction of an industrial base that can absorb the rapidly-growing labor force, and an educational system that can effectively and efficiently prepare its citizens for productive participation in the development process.

2. The Economic and Financial Setting

There are seven major economic conditions that characterize the Indonesian economy. These conditions constitute a set of opportunities and constraints to the Government as it attempts to meet the Repelita IV goals of raising the per capita income of Indonesia's population while assuring an equitable distribution of that income.

a. Dependence on Oil Revenues

Because oil remains the single largest earner of foreign exchange and other revenues, the continuity of Indonesia's public spending and investment in development projects is threatened by the slackening of foreign demand and world prices.

b. Falling Labor Absorption Rates

It is difficult at this point to determine the exact extent to which the sluggish creation of new employment opportunities represents the

short-term result of the recent world recession. Falling absorption does, however, appear to signal an even more serious, longer-term trend. The trend toward capital intensive modes of production in the oil industry, as well as in other industries seeking to compete in capital intensive export markets, is a contributing factor that must be addressed.

c. Increased Labor Productivity in Agricultural Sector

In recent years, Indonesia has reached self-sufficiency in food production, largely through increases in per farmer productivity. Still the main employer of Indonesian labor, the agriculture sector will be able to provide fewer and fewer jobs in the future and will thus contribute to the decline in employment opportunities.

*d. High Expectations for the Relatively
Fragile Manufacturing Sector*

Although considered by many to be the sector potentially contributing most to economic growth, the manufacturing sector has not yet been able to diversify sufficiently to tap Indonesia's large domestic market successfully. As a result, the manufacturing sector also remains dependent on external markets, especially for textiles. The manufacturing sector's path to development is made more difficult by planners' conflicting objectives; on the one hand, manufacturing and industry are expected to be the main engine of economic growth, which to some non-economists has implied investment in overly capital intensive equipment. On the other hand, the manufacturing has been given the responsibility of new job creation, a task that is inconsistent with overly capital intensive approach stressed earlier.

e. Recent Decentralization of Financial Markets

The highly centralized banking system of Indonesia's past has only recently been liberalized. To the extent to which competition is increased, credit may become available on somewhat more competitive terms.

f. Recent Reforms in Excise and Income Taxes

Recent and extensive reforms in the tax system have improved tax collection procedures and broadened the tax base. The success of these reforms will help ease the Government's current dependence on oil for public revenue for economic development.

g. Institutional Rigidities

Institutional rigidities, such as the relatively distinct processes for formulating the Five-Year Development Plan, the annual routine budget, and the annual development budget, make it difficult for the Indonesian Government to deliberately develop an adaptive process that responds with flexibility to cost-effective opportunities and cost inefficiencies, and to provide evidence of shortages and surpluses that reflect the growth bottlenecks in the economic environment.

Fiscal Capacity

The fiscal capacity of the Government has been limited during the last five years because of slower growth in routine budget revenues relative to expenditures. This phenomenon is due largely to the world recession and its negative impact on receipts from corporate taxes on oil, the major source of government revenue. Development budget revenues, on the other hand, grew faster than expenditures during the same period reflecting large contributions from foreign sources and the Government's difficulty in disbursing these funds. Relatively high debt service ratios, which must be financed out of the routine budget, limit the resources available for expenditures on public sector programs. In 1985/1986 the routine budget was increased to a level that exceeds the development budget. This growth represents a trend aimed at providing a fiscal stimulus to the economy while at the same time tightening public investment in order to meet resulting recurrent costs.

It is very difficult to determine the exact proportion of total public sector expenditure that is spent on education. In part, this is because departments other than the MOEC have education functions. In recent

years, it was estimated that the MOEC was directly responsible for only 44 per cent of the public resources spent on education. The Ministry of Home Affairs, the Office of the President, and the Ministry of Religious Affairs contribute a large portion of their resources to their own education undertakings. The picture is further complicated by a large and very active private sector. Given the large number of parties providing education in both public and private sectors, it is difficult to judge what portion of total Indonesian education the MOEC should be responsible for in the future.

Labor Market Conditions

Although measured unemployment on the whole is very low in Indonesia (approximately 2 per cent), underemployment is a widespread phenomenon. In recent years, approximately 37 per cent of Indonesia's work force has been identified as underemployed. In rural areas, where underemployment is most prevalent, it is associated with poverty and the lack of land. In cities, underemployment reflects the informal markets and labor flexibility. Under conditions of falling labor absorption rates, underemployment, which is defined as 10 to 35 hours a week, provides a marginal income for those who do not have the skills or training to find jobs in the modern industrial sector.

The general education level of Indonesia's labor force remains quite low. In 1982, approximately 13 per cent of the work force had more than a primary education. As is the trend in most developing countries, Indonesia's agricultural sector still employs 80 per cent of the work force. The public sector, on the other hand, attracts the largest proportion of educated labor. Approximately 80 per cent of all postsecondary graduates work in public services, while industry is staffed with relatively poorly educated labor. The high concentration of high school graduates in the public sector can be linked to the wage for civil servants at this education level which is higher than market wage rate. Indeed, unemployment rates among senior secondary school graduates are evidence of distortion in the wage rate. A recent tracer study shows that many unemployed secondary school graduates are only temporarily unemployed. Because public sector wage rates are so favorable at this skill level, many high school graduates will remain unemployed for up to two years while waiting for a job opening in the public sector.

Repelita IV suggests that the greatest need for manpower will be in the industrial sector. This is evidenced by the 200 per cent growth in polytechnical enrollments envisioned for the five-year period of Repelita IV. Yet, previous manpower analysis suggests that Indonesian labor has not thus far reached the level of skill required for industrial expansion. A more labor-intensive economic strategy and a progressive shift toward a more complex economy that emphasizes the role of manufacturing and services will call for general upgrading of skills. A pool of well-trained secondary school graduates will be a vital factor in the expansion of industrial sector. It is too costly for industry to produce the basic reading, writing, mathematical, and analytical skills that modern manufacturing requires. The expansion of a general secondary education system that produces graduates with these basic skills will be a priority measure for reducing the manpower shortage projected for Indonesia's industrial sector.

Educational Finance

The issues of educational finance in this Sector Review include consideration of public and private sources of funding by type of schooling or training as well as the unit cost per student and cycle cost per graduate by level or type of education.

The Indonesian education system is characterized by a large and active private sector at the postprimary levels. Although the private sector receives a variety of government subsidies, the coordination of private and public efforts at the senior secondary and university levels of education offers the Indonesian Government important opportunities for reducing public expenditures on education. The diverse sources of funding for education, which include resources from the MOEC budget, from a large number of other government departments, from private institutions, and from private individuals, present certain constraints. The wide variety of financing sources make more difficult the task of coordinating education spending to achieve the most efficient allocation of resources. This dilemma is particularly noteworthy in the primary education subsector where departments other than MOEC are responsible for the teacher's wage bill and for major school construction and rehabilitation efforts. At the secondary and higher levels of education a key concern is the appropriate mix of public and individual contributions to education.

The analysis of per student costs and cycle costs per graduate which are presented in this Sector Review sheds some light on these concerns.

There appears to be considerable regional variation in the cycle cost per graduate at the primary level. The cost per graduate in Java outside Jakarta and in the rest of the islands was found to be 1.5 times higher than in Jakarta. The higher cycle costs found outside Jakarta can be linked to higher unit costs, due largely to lower student-teacher ratios and smaller schools, and by considerably higher repetition rates. The noteworthy variation in repetition rates that has emerged among regions supports earlier evidence that regional disparity in the quality of primary education persists.

Private costs to families and students are quite high for public secondary school. On the average, secondary school students provide more than 38 per cent of their own annual instructional costs. Past rate of return studies of secondary education suggest that high private costs may deter students from remaining in secondary programs. These studies have shown the social rate of return to be higher than the private rate of return for secondary education in Indonesia, a finding which is contrary to trends in other countries. Relatively high dropout rates compared to repetition rates suggest that high private costs may force students who are doing poorly to leave school rather than repeat a grade. Redistributing some of the secondary school costs back to the public sector or introducing a progressive fee system may have the positive impact of keeping students in school.

The annual per student costs for public vocational/technical secondary school were found to be 1.4 times higher than for general secondary programs. In addition, the vocational/technical secondary programs were found to have the highest drop-out rates, and hence the highest costs per graduate, of all public secondary programs. Rates of return analysis completed for the Sector Review shows that the incremental earnings of STM graduates working in industry are considerably lower than those of SMA graduates. The implication of these findings is that planners should proceed cautiously with future investment in technical secondary programs as they are currently implemented.

In public universities, the average operating budget per student declined in real terms during the 1980/81-1984/85 period. This is due in part to the slow growth in operating expenditures compared to growth in enrollments. The continuing growth in social demand for higher education suggests that the situation will only deteriorate if innovative

measures are not taken. In this regard, greater cost recovery of higher education in the public sector and greater responsibility to private institutions of higher education are two potential approaches to the problem of constrained resources in higher education.

Appendix B
Page 1

EDUCATIONAL STATISTICS 1984/1985

A. Population as of 1984/85 (000)

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and above
Total	161,579.5	8,090.5	25,543.9	24,432.7	38,680.2	24,195.1
Male	80,309.2	4,143.1	13,146.3	11,340.0	19,080.5	11,821.7
Female	81,270.3	3,947.4	12,397.6	13,092.7	19,591.7	12,373.4
Rural	125,421.1	6,467.9	19,359.4	18,089.4	29,959.9	19,366.2
Urban	36,158.4	1,622.6	6,184.5	6,343.2	8,720.3	4,828.9

B. Educational Institutions

1. Primary School Enrollment 1984/1985 (000)

		Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	26,567.7	13,884.2	12,683.5	30,215.0	884	102
Rural	22,662.2	11,843.2	10,819.1	25,834.5	707	081
Urban	3,905.5	2,041.0	1,864.4	4,380.5	177	021

2. Secondary School Enrollment (Grade VI-XII) 1984/1985 (000)

		Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	7,129	4,140	2,989	6,698	23	058
Rural	4,277	2,691	1,586	4,353	126	037
Urban	2,852	1,449	1,403	2,345	104	021

3. Degree College Enrollment 1984/1985

	Total	Boys	Girls	Capacity	Faculty
Total	177,352	116,419	60,933	79,809	10,276
Rural	none	none	none	none	none
Urban	304,068	197,199	106,869	79,809	10,276

4. University Enrollment 1984/1985

	Total	Boys	Girls	Capacity	Faculty
General ²	489,378	337,508	151,870	225,114	22,679
Technical ³	58,658	45,991	12,667	26,982	2,214

5. Professional College Enrollment 1984/1985

	Total	Boys	Girls	Capacity	Faculty
Medical ⁴	1,506	381	1,123	753	119
Engineering ⁵					
Technology	34,551	30,449	4,102	15,893	2,091
Agriculture ⁶	9,683	7,654	2,029	4,454	1,552
Teacher					
Primary ⁷	246,623	87,665	158,958	243,240	16,472
Secondary ⁸	198,848	129,847	9,001	97,445	13,360

6. Technical/Vocational Training Institute Enrollment 1984/1985

	Total	Boys	Girls	Capacity	Faculty
Polytechnic ⁹	45,326	27,726	17,600	20,849	n.a. ¹⁰
Technical Training Centers (STM) ¹¹	268,900	261,000	7,300	234,200	20,700
Commercial Institutes (SMEA) ¹²	341,900	133,900	208,000	253,600	18,900
Vocational Training Institutes (SMKK) ¹³	24,200	800	23,400	32,300	2,600
Others (SGO) ¹⁴	28,300	113,100	167,200	252,400	17,700

Notes on Educational Statistics 1984/1985, Indonesia

It is difficult to cast statistics into tables for comparison across countries. The system may be different from one country to another. There is, therefore, a need for further elaboration of the statistics presented in the appendix. There are no problems presenting statistics on population. The statistics on Educational Institutions need some clarifications.

The rural-urban differences are usually not apparent in the official statistics. The figures shown here are approximations. At primary level the estimate is 85 per cent rural; at the secondary level 65 per cent. There can be no rural degree college level institutions, since all of them are located in cities and big towns.

Capacity is also difficult to define, since the official statistics do not offer standards for calculating capacity. At the primary level capacity is defined as number of classrooms multiplied by 40. In many big cities this number is almost always exceeded. For secondary schools the number of classrooms is multiplied by 40. For higher education the calculation is rather confusing. The Director General of Higher Education, in a personal conversation, indicated that facilities were not used as efficiently as he would like. If efficient use were made, the capacity to absorb students could easily be increased. He did not elaborate. For this particular purpose, estimates of the Sector Review are used. Capacity is defined as classroom facilities of about 2m² per student. Calculating in this way the capacity in higher education is already exceeded.

Trained-untrained teacher is not in Indonesian school statistics. Qualified and unqualified are the terms used. This may or may not differ from other countries. Unqualified teachers can be trained as teachers, but not at the level the Civil Service Commission requires. This requirement is usually lower than what other countries determine. In Indonesia, qualified primary teachers are trained at senior secondary level; junior secondary teachers require only two years, and senior secondary teachers four years of college training. These definitions are used.

The difference between *degree college*, *university*, *professional college*, and *institutes* are not used in Indonesian statistics. *Polytechnics*, for instance, although an officially adopted name for non-degree programs in relation with the assistance from several international agencies, do not appear on official statistics. The polytechnics are lumped together with other non-degree programs, including teacher training. Here,

polytechnics is defined as all non-degree programs, excluding teacher non-degree programs. Other *institutes* and *centers* under the heading of *Technical/Vocational Training Institutes* are at the senior secondary level.

Except at post secondary level, no data is available in the Central Bureau of Statistics, and in the statistics department of the Ministry of Education and Culture about educational institutions outside the MOEC. The exception is the statistics of the schools within the Ministry of Religious Affairs, because of the equal status with other primary secondary schools. *Professional colleges* are mostly public and private colleges supervised by other ministries.

The term *Faculty* (Fakultas) in Indonesian jargon indicates institutions (e.g. Faculty of Medicine) rather than teachers. Here, faculty is used to indicate teachers. This is consistent with the other tables. The figures are approximation rather than actual.

Figures for *National Education and Training Institutes* are not available. The Indonesian name for the institutes is either *Pusat Pendidikan dan latihan* (Education and Training Center) or *Badan Pendidikan dan Latihan* (Education and Training Agency), which should have several Pusats within it. Every ministry and non-ministry agency have at least one center. There are 21 ministries and 20 non-ministry agencies. These figures do not include the armed forces.

The following are specific notes on designation and figures.

1. Degree colleges include all public and private independent post-secondary institutes, except teacher training, which are not included in universities (Universitas dan Institut).
2. General Universities include all public and private universities (Universitas dan Institut), except technical and teacher training.
3. Technical Universities are all public and private universities with technical training (Institut dan Fakultas Teknologi).
4. Medical Professional Colleges include all public and private independent college in nursing and health.
5. Engineering Professional Colleges include all public and private independent colleges in engineering and technology.
6. Agriculture Professional Colleges include all public and private independent post-secondary institutes on agriculture, fisheries and forestry.
7. Primary Teacher Training College is not a post-secondary level training (see my notes above).

8. Secondary Teacher Training Colleges include all public and private Teacher Training Institutes (IKIP) and colleges (FKIP) degree as well as diploma programs.
9. Polytechnics include all public non-degree programs, except teacher training.
10. Teachers of polytechnics are the same as teachers of universities, since they are not usually kept separate. Polytechnics are regarded as an integral part of universities.
11. Technical Training Centers are Technical High Schools (STM).
12. Commercial Institutes are Commercial High Schools (SMEA).
13. Vocational Training Institutes are Home Economics High School (SMEA).
14. Others (SGO) are Physical Education High Schools.

Distance Education in Pakistan

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Appendices

References

DEVELOPMENT OF EDUCATION IN PAKISTAN

This Chapter is divided into two main parts. Part I comprises various aspects of formal education, while Part II comprises a brief report on various non-formal education programs and projects.

A. Formal Education

In this part, development of education in Pakistan has been discussed under the following headings:

1. Literacy
2. Primary Education
3. Secondary Education
4. Higher Education
5. Teacher Training
6. Professional Education
7. Technical and Vocational Education
8. Financing of Education

1. Literacy

The following table briefly depicts the status of literacy at the time of the last two censuses held in Pakistan:

**Table 1. Showing Literacy Rates (%) in Pakistan in 1972 and in 1981
(For Population 10 Years and Above)**

	1972 ¹			1981 ²		
	Male	Female	Total	Male	Female	Total
All areas	30.2	11.6	21.7	35.1	16.0	26.2
Urban	49.9	39.9	41.5	55.3	37.3	47.1
Rural	22.6	4.7	14.3	26.2	7.3	17.3

Literacy was estimated at 21.7 per cent in 1972 and 26.2 per cent in 1981. There are large disparities in terms of rural/urban (17.3 per cent against 47.1 per cent) and male/female (35.1 per cent against 16.0 per cent) literacy rates. Rural female literacy is only 7.3 per cent, the worst case being female literacy in Baluchistan, which is only 1.8 per cent.³

¹ Federal Bureau of Statistics, *Ten Years of Pakistan in Statistics, 1972-82*, Islamabad, 1983, p. 51.

² *Economic Survey, 1985-86*, Islamabad, p. 16.

³ Government of Pakistan, *Action Plan for Educational Development, 1983-88*, Islamabad, 1983, p. 43.

The major problems in promoting literacy in Pakistan include the low level of motivation of adults, sporadic efforts, insufficient financial allocations, non-coordination among different agencies, and rapid population growth.

The Government of Pakistan, has set up a Literacy and Mass Education Commission (LAMEC) to suggest ways and means of promoting literacy in the country and to undertake massive operational projects for expansion of literacy activities.

The Sixth Five-Year Plan seeks to improve the literacy level by means of a two-pronged attack by accelerating primary education and through the launching of a functional literacy campaign.⁴ As the Economic Survey, 1985-86 puts it, under the Prime Minister's Five-Point Program, substantial emphasis is being placed on literacy to attain the objective of 50 per cent literacy up to 1990. Consequently, in addition to designing special radio and TV programs aiming at achieving the target, different agencies are up in the field to combat the task. The Iqra (Read) Project, recently started by the Government provides incentive to literacy workers by fixing a remuneration of Rs1,000 per every literate produced by them. Besides government efforts, voluntary organizations have also chalked out their own programs. The Allama Iqbal Open University, through its series of Integrated Functional Education Projects has also been rendering considerable services in promoting the cause of literacy in the country.

2. Primary Education

The participation rate at primary stage in Pakistan is only 49 per cent, while it is 62 per cent in Bangladesh, 67 per cent in India, and 82 per cent in Thailand.⁵ The following table provides the picture of participation rate at primary stage in 1985:⁶

Table 2: Showing Enrollment Ratio - % Primary, 1985

	Male	Female	Total
All areas	64	33	49
Rural	44	21	40
Urban	68	68	68

The Sixth Five-Year Plan (1983-88) envisages an increase in the participation rate from 48 per cent (in 1983) to 75 per cent in 1983-88. A

⁴ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, 1983, p. 352.

⁵ Bhatti, M.A., *Primary Education Improvement: Desired Direction*, Islamabad, National Education Council, 1986, p. 6.

⁶ *Economic Survey, 1985-87*, Islamabad, p. 16.

break-up of the plan targets is given in the following Table.⁷

Ever since the promulgation of the National Education Policy (1979), the innovations of Mohallah Schools⁸ and Mosque Schools have also been seriously taken up for implementation in order to improve the status of primary education in the country.

The Action Plan, 1983-88, also provides for the improvement of primary education including revision of curricula and textbooks, and launching a massive teachers' training program. It also intends to commission all the existing training institutions including the Allama Iqbal Open University in the gigantic task of provision of 100,000 additional primary school teachers in the short span of five years.⁹

Table 3: Showing Primary Education Indexes

Total	1982-83 Enrollment (Million)	1987-88 Enrollment (Million)	Absolute Increase Enrollment (Million)	Percentage Increase
<i>Total</i>	6.8	12.3	5.5	81
Rural	4.1	8.3	4.2	102
Urban	2.7	4.0	1.3	48
<i>Boys (Total)</i>	4.6	7.7	3.1	67
Rural	3.2	5.6	2.4	75
Urban	1.4	2.1	0.7	50
<i>Girls (Total)</i>	2.2	4.6	2.4	109
Rural	1.0	2.7	1.7	170
Urban	1.2	1.9	0.7	58

Under the Prime Minister's Five-Point Program, substantial emphasis is being placed on primary education and special measures are being taken to raise the participation rate up to about 75 per cent by the year 1990.

3. Secondary Education

The National Educational Policy declares that "the present four-tier system of education, namely primary, secondary, college and university, will be replaced by a three-tier system of elementary, secondary and university education in a phased manner".¹⁰ Efforts are afoot to combine

⁷ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, 1983, p. 339.

⁸ A small school that may be run by an elderly or veil-observing lady to cater to the educational needs of children belonging to few houses.

⁹ Government of Pakistan, *Action Plan for Education Development*, Islamabad, Ministry of Education, 1983, pp. 37-41.

¹⁰ Government of Pakistan, *National Education Policy, 1979*, Islamabad, p. 32.

secondary education classes with intermediate colleges or vice-versa to ensure effective coordination of the secondary stage.

It may be mentioned here that secondary classes are taught both in middle and high schools (Classes VI-VIII are part of the middle schools which also have Classes I-V). On the other hand, high schools have Classes VI-X. As already pointed out, efforts are being made to introduce Classes XI and XII in high schools in a phased manner. In this way, the state of secondary education in Pakistan presents a peculiar picture of mixed and overlapping stages, the data about which may not be available with a consistently common denominator for a particular period of time.

At the time of the promulgation of the Education Policy (1972-80), enrollment in Classes IX-X was 400,000 and in Classes XI-XII 160,000 which was only 8 per cent of the relevant age group and was much less as compared to many other countries of the world as given below.¹¹

Table 4: Showing Participation Rates at Grades XI-XII

Sr. No.	Country	% Attending Sec. & Inter. Edu. No.	Sr. No.	Country	% Attending Sec. & Inter. Edu.
1	USA	100	5	UAR	30
2	Japan	86	6	Turkey	24
3	UK	72	7	Iran	21
4	USSR	67	8	India	15

The Plan provides for the additional enrollment of about one million children in secondary schools, an increase of about 40 per cent over the base year.¹² The Sixth Plan further notes the fact that since the number of middle schools (with secondary Classes VI-VIII) and the secondary schools is not sufficient in rural areas, any attempt to raise the educational level of rural areas and promote the principle of equality of educational opportunity should concentrate on the development of secondary education in rural areas.¹³

The participation rates at different levels of secondary education at the time of the start of the Sixth Plan and the targets to be achieved by the end of the Plan are given below:¹⁴

¹¹ Government of Pakistan, *The Education Policy, 1972-80*, Islamabad, p. 9.

¹² *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 342.

¹³ *Ibid.*, p. 343.

¹⁴ *Ibid.*, p. 344.

Table 5: Showing Participation Rate (in Percentage) at Different Levels of Secondary Education

	1982-83			1987-88		
	Male	Female	Total	Male	Female	Total
A. Classes VI-VIII						
Total	35	14	26	44	19	33
Urban	64	39	52	71	45	59
Rural	23	4	15	34	8	22
B. Classes IX-X						
Total	21	8	15	26	12	20
Urban	49	27	39	52	36	45
Rural	10	1	6	16	2.5	10

Since secondary education is taken to be a terminal stage in our system of education, the major issues at this stage relate to providing a diversified curriculum so as to enable students to enter different walks of life by providing them necessary guidance and counselling in selecting subjects and preparing them for future vocations. The shortage or lack of properly qualified teachers in science and mathematics and laboratories have always threatened the quality of education at this stage.¹⁵

The Action Plan of the Ministry of Education (1983-88) aspires to bring about significant improvements at the secondary stage through the following steps:¹⁶

- (i) Establishment of 278 technical middle schools (one for each tehsil)¹⁷ and 77 technical high schools (one for each district);
- (ii) Upgradation of 2,400 middle schools for boys to high school level and 2,700 girls' primary schools to the middle level; and
- (iii) Enlargement of the role of secondary schools as resource schools by providing orientation to middle school teachers who would, in turn, enrich the knowledge of primary school teachers.

4. Higher Education

At present, there are around 500 arts and science colleges and 20 universities in the country. Out of these 20, there are 12 universities for

¹⁵ Siddiqui, S. A., *Education in Pakistan* (unpublished), 1983, p. 21.

¹⁶ Government of Pakistan, *Action Plan for Education Development*, Islamabad, 1983, pp. 45-46.

¹⁷ Tehsil is a subdivision of a district.

general education subjects, four for engineering, three for agriculture and one for biomedical sciences.¹⁸

In spite of the considerable increase in the number of colleges and universities as well as the enrollment of students and number of teachers, etc. the facilities of higher education are available to only 4.6 per cent (estimated figure) of the relevant age group, 18-23 years. The following table provides a comparative picture of the situation of enrollment in higher education in Pakistan and some other selected Asian countries.¹⁹

Table 6: Showing Enrollment Percentage of the Relevant Age Group (18-23)

Sr. No.	Country	Enrollment Percentage (1975)	Estimated Enrollment Percentage (1985)
1	Philippines	22.7	24.6
2	Japan	22.4	32.9
3	Iran	14.0	23.7
4	Republic of Korea	12.5	17.4
5	India	7.5	7.6
6	Indonesia	6.7	8.7
7	Thailand	5.9	10.1
8	Pakistan	3.1	4.6

As the above table indicates, Pakistan had the lowest percentage of the relevant age group (3.1 per cent) in higher education in 1975 as compared to many other Asian countries. Similarly, the estimated increase in enrollment up to 1985 for Pakistan is also on the lowest side.

In view of the low participation rate and other problems being faced in higher education, the Sixth Plan (1983-88) provides a specially designed strategy to improve the higher education facilities through the:²⁰

- (i) Improvement of physical and human resources;
- (ii) Improvement of management of institutions by delinking intermediate section (Classes XI-XII) from the colleges and transferring it to high schools;
- (iii) Development of selected university colleges into centers of advanced studies;

¹⁸ Siddiqui, S. A., *Education in Pakistan*, Islamabad, p. 25.

¹⁹ Japanese National Commission for UNESCO and NIER, *Educational Development in Asia and Oceania: A Graphic Presentation* quoted by Saghir, A. R., *Population Education* (in Urdu), Islamabad, Allama Iqbal Open University, 1985, p. 150.

²⁰ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, p. 349.

- (iv) Development of repudiated colleges with considerable academic and administrative freedom; and
- (v) Induction of private sector to share the responsibility of higher education.

5. Teacher Training

At present in Pakistan, there are various types of teachers' training programs which include both pre-service as well as in-service. They are briefly described below:

(i) Training of Primary and Middle School Teachers

There are around 80 Teachers' Training Institutes and Colleges of Elementary Teacher Education, and their annual output is around 15,000. Along with them, the Allama Iqbal Open University is also contributing to the training of primary and middle school teachers through its distance teaching system. These institutions produce teachers and award the Primary Teacher's Certificate (PTC) and Certificate in Teaching (CT) to primary and middle school teachers, respectively.

(ii) Training of Secondary School Teachers (B.Ed., M.Ed. Programs)

Colleges of Education and the Institutes of Education and Research offer B.Ed. and M.Ed./M.A. (Education) programs. The total number of such institutions is around 18 (14 colleges of education and four IERs/University Departments). M.Ed. program is generally meant for in-service teachers, whereas M.A. (Education) is open both for pre-service as well as in-service teachers. The total output of trained graduates is around 7,000 per annum.

(iii) In-Service Education

In addition there are several education extension centers which arrange for periodic in-service refresher courses. They provide not only content-based knowledge to the teachers but also equip them with the latest teaching methods. The number of full-time institutions is five while in-service programs are also occasionally arranged at the pre-service education institutions including Colleges of Education and IERs during summer vacations and on receipt of several grants from the Government. The Academy of Higher Education of the University

Grants Commission and the Academy of Educational Planning and Management offer intensive short-term (three months) courses for university lecturers, educational administrators and planners including Directors/Deputy Directors of Education and District Education Officers, respectively.

6. Professional Education

Besides professional institutes established and run by big organizations like Pakistan International Airlines Corporation, Pakistan Steel Mills Corporation, Pakistan Railways and Pakistan Air Force, etc. the universities and other institutions also impart regular degree/diploma programs in the following professions:²¹

- | | |
|-----------------|-------------------------------|
| (i) Engineering | (v) Agriculture |
| (ii) Technology | (vi) Law |
| (iii) Education | (vii) Business Administration |
| (iv) Commerce | (viii) Medicine |

Table 7: Showing Data on Training in Health Sector

Sr. No.	Category	1978		1983-84	
		No.	Yearly Output	No.	Yearly Output
1	Medical Colleges	15	4,000	16	4,260
2	Dental Colleges	4	117	4	120
3	Nursing Training Schools	28	750	44	840
4	Lady Health Visitors Training Schools	8	389	10	600
5	Medical Technical Training Schools	—	—	26	650

7. Technical and Vocational Education

In Pakistan, there is a large variety of training programs, both in the public and private sectors to produce trained manpower of different categories. In the public sector, training is imparted through formal training programs provided in engineering universities and colleges, polytechnics, monotronics, colleges of technology, technical training centers, and vocational, technical and commercial institutes of different

²¹ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, p. 88.

categories. There are four engineering universities in the country. The present teaching programs in these universities are largely confined to B.Sc. engineering courses with a very limited scope for the development of M.Sc. engineering programs.²² The country still depends upon foreign training for Master's level programs in engineering. Seven polytechnic institutes also offer training at B.Tech. level and have recently been named as Colleges of Technology. These institutions have a combined capacity of training about 17,300 students in diploma courses and about 1,700 in B.Tech. courses. About half of these institutions are being supported under a development project aided by the Asian Development Bank. Skilled workers are being trained through programs run by the Government, autonomous, semi-autonomous and private organizations. In the Government sector, there are more than 50 training institutions managed by the Provincial Labour Departments. Out of the approximately 50,000 skilled workers trained annually, only about 10 per cent are being trained through the public sector. Commercial institutes offer post-matric certificate and diploma-level training programs in the field of secretarial practice, commerce, banking and insurance, etc.²³

The Sixth Five-Year Plan provides for establishing 19 new polytechnics (12 for men and 7 for women) and 10 monotecnics. The Plan also envisages expansion and qualitative improvement of training programs in the private and non-formal sectors.

8. Financing of Education

Analysis of expenditure during various Plan periods reveals that expenditure on education has never exceeded 1.67 per cent of GNP on the average. Following has been the percentage of expenditure out of GNP during various Plan periods:

First Plan	(1955-60)	-	0.92%
Second Plan	(1960-65)	-	1.45%
Third Plan	(1965-70)	-	1.33%
Non-Plan Period	(1970-78)	-	1.67%
Fifth Plan	(1978-83)	-	1.64%
Sixth Plan	(1983-86)	-	1.86%
	3 years only		
Cumulative Average		-	1.67%

²² Planning Commission, *The Sixth Five-Year Plan, 1983-88*, p. 346.

²³ *Ibid.*

At present, Pakistan is spending less than 2 per cent of its GNP on education, compared to Malaysia (6.7 per cent), Turkey (5.6 per cent), Iran (5.4 per cent), Sri Lanka (5 per cent), Burma (3.5 per cent), South Korea (4.1 per cent), Thailand (4.2 per cent), Philippines (3.6 per cent), Singapore (4.2 per cent), Papua New Guinea (6.6 per cent), Indonesia (3.3 per cent), Kampuchea (3.2 per cent) and India (2.9 per cent). With the present rate of allocation for education as percentage of GNP, Pakistan is being bracketted with the bottom three countries in the region along with Afghanistan and Nepal. This financial allocation for education in Pakistan is indeed very low.

B. Non-Formal Education

1. Allama Iqbal Open University

The Allama Iqbal Open University (AIOU) is the pioneer institution of non-formal and distance education established in Pakistan in 1974. The University offers as many as 90 different courses through its media-based and tutorially-supported non-formal/distance education system. These courses have an extremely wide range, from literacy to M.A. levels. Leaving aside the details of higher level courses, some of the lower level programs/courses need special mention in the context of non-formal education. They are:

Literacy and Adult Education. In this field, the AIOU had its earliest collaboration with the Ministry of Education and the Pakistan Television Corporation. AIOU's main contribution was through participation in the development of materials, research surveys, evaluation exercises and the setting up of community viewing centers under the aegis of its regional offices.

Under a series of Integrated Functional Education Projects, the University after undertaking detailed surveys of target areas, developed literacy and skill-oriented teaching materials. Class cycles for adults (male and female) each of six-month duration were run in the selected villages of Rawalpindi, Mirpur, Bannu and Hyderabad districts. The projects also resulted in the preparation of need-based literacy materials in Urdu and regional languages. These materials emphasized literacy, social awareness and skill development.

Functional Education Project for Rural Areas (FEFRA) has been another important project of non-formal education in Pakistan. Through this ODA-assisted project, AIOU has been able to develop and launch functional education courses for rural illiterates. These courses were: (i) Child Care; (ii) Poultry-keeping at Home; (iii) Live-

stock Management; (iv) Electricity in the Village; and (v) Agricultural Credits.

Since the project was meant for illiterates, cassettes were prepared in local dialects which explained the pictures and diagrams drawn on the flip charts. Each group of the learners had a group leader who was instructed to operate the radio cassettes and use the built-in discussion intervals provided in the cassettes. This project has now been converted into a regular program of the University.

An Integrated Functional Education Project has been recast and started (exclusively for females) as a pilot project near Rawalpindi. It is of 18 months' duration and aims at making the illiterates literate and then providing follow-up materials so that they may not relapse into illiteracy. Females educated in this way may join the stream of formal primary education and move on to secondary education through the women education project of the University.

Under assistance from the Government of the Netherlands, the AIOU has started Women's Matriculation (Secondary Level Certificate) Education Project. To begin with, it is being launched in some selected areas to be gradually extended to the whole of the country in a phased manner. It is planned to educate about 10,000 female students under the project by 1990.

2. Ministry of Education

Primary and Non-formal Education Wings of the Ministry of Education launched an Experimental Pilot Project Integrating Education and Rural Development (EPPIERD) in 1977, mainly aiming at the education of school dropouts in the rural areas of the Federal Capital Territory, Islamabad. The project was renamed Rural Education and Development (READ) in 1980. It makes use of village workshops, Women Education Centers, Community Viewing Centers/Adult Literacy Centers, Mohallah Schools²⁴ and Mosque Schools in providing education to the male and female target groups. The project comprises a heavy skills component in rural context.

3. Health, Social Welfare and Population Welfare Wing

Under this Wing, Health Education Cells are functioning at federal

²⁴ The term "Mohallah Schools" was coined by the National Education Policy, 1979, to denote a school run by an elderly/veiled-observing lady, catering to the educational needs of a few young girls of the locality.

and provincial headquarters. They appoint health educators in medical colleges, public health nursing schools, etc. Started in collaboration with the World Bank, its plan aims at the improvement and expansion of health education programs as an integral part of the health services.

Community services, such as maternity and child health centers, adult literacy centers, vocational training centers, are provided by Federal and Provincial Governments to help people solve their problems.

4. Agriculture and Livestock Departments

The field staff of these departments play an important role in advising farmers on plant protection, provision of seeds, crop patterns, poultry farming, sericulture, fish-farming, etc. These field workers carry pamphlets to the villages and deliver them to the farmers. They also provide orientation to groups of farmers on new techniques and methods of agriculture.

5. Rural Development Department

Strategies like Village Aid, Integrated Rural Development Program and the constitution of Markaz²⁵ have been adopted by the Department to accelerate development in rural areas. The National Center for Rural Development (NCRD) caters to the training needs of key personnel engaged in various programs of rural development. It also carries research activities pertaining to rural development and disseminates their results.

6. National Council of Social Welfare (NCSW)

Formed in 1956, the NCSW is providing assistance to the programs like women welfare, health, youth classes, adult education centers and vocational training for the handicapped throughout the country.

7. Pakistan Broadcasting Corporation (PBC)

Having three basic objectives of information, entertainment and education, most of the programs of the PBC address the illiterate farmers, laborers, rural population, women, youth, etc.

²⁵ The term "Markaz" refers to the grouping of several villages around a central village which plays a catalytic role in rural development by providing essential services to the surrounding villages.

8. Pakistan Television Corporation (PTV)

The PTV is a strong source of non-formal education. Through its Adult Functional Literacy Project, between 120,000 and 150,000 of the total illiterates were made literate. PTV also telecasts programs of the Allama Iqbal Open University for its courses ranging from literacy to the highest level. In addition to that, the PTV also has its own series of programs which aim at educating the masses in non-formal settings.

9. National Farm Guide Movement (NFGM)

Started in 1966, the NFGM publishes 'Dehi Razakar'²⁶ in Urdu and Farm Guide in English. It provides two primers to illiterate farmers. A set of 13 lessons of agriculture is also provided to the farmers with some basic education. These primers provide literacy through agricultural concepts and practices.

10. Pakistan Girls Guides Association (PGGA)

The PGGA aims at training girls and women in good citizenship so as to enable them to contribute to the welfare of their homes, community, training in home crafts, social work and first aid, etc. PGGA has also started about 100 adult literacy centers. It is affiliated with the International Girl Guide Movement.

11. All Pakistan Women's Association (APWA)

The APWA was founded in 1949 to promote literacy and general awareness for development among women. It also organizes courses for women on kitchen, gardening, domestic poultry farming, vocational training and training in nutrition. It also provides training to lady health visitors, midwives, auxilliary nurses, civil defense volunteers and organizers of population planning activities.

12. Pakistan Academy for Rural Development

The Academy was started in 1959. One of its main objectives is to experiment with new techniques of rural development. Activities of the Academy in non-formal education include the extension of education

²⁶ "Dehi Razakar" in Urdu means "Rural Volunteer".

programs for rural development workers and "Ulema" project aimed at education of religious leaders.

13. Adult Basic Education Society (ABES)

The ABES is a non-governmental organization supported and financed by missionaries. Its main aim is to provide adult education and vocational training to masses of people in selected areas of Punjab. It also arranges sessions on health, child care, handicrafts, cutting, sewing and religious education, etc.

14. Government Technical Education and Private Technical Training Centers

Government polytechnics, colleges of technology, vocational institutions and technical training centers provide evening programs for training in a variety of trades such as drafting, electronics, automotive, surveying, welding, etc. These programs have helped a lot in overcoming the shortage of skilled and semi-skilled manpower in various fields due to exodus of trained manpower to the Middle East.

15. Agency for Barani Area Development (ABAD)

The ABAD is operating in more than ten "Barani", i.e. rainfed districts of Punjab. It offers courses of 6 to 12 months duration in auto and farm machining, welding, tailoring, motor winding, etc. in more than 22 well-established centers.

16. Agricultural Universities

Along with being institutions of higher learning, the agricultural universities also have their extension programs for farmers and agricultural field staff in crop production, plant protection, bee-keeping, food technology, etc.

C. Problems of Non-Formal Education

As discussed above, different agencies and institutions offer a very wide variety of courses and programmed in non-formal education. Obviously, they have problems which are of peculiar nature and pertain to the field in which each one of them is operating. Nevertheless, there are certain problems which confront all non-formal education activities in the country. Some of them include the following:

- (i) Non-coordination of the activities of different organizations engaged in NFE programs;
- (ii) Financial constraints faced by these agencies;
- (iii) Low motivation level of the target people to accept these programs and benefit from them;
- (iv) Absence of any systematic surveys preceding the development of different programs;
- (v) Relatively outdated techniques of instruction;
- (vi) Absence of systematic research in the field; and
- (vii) Absence of built-in mechanism to develop the self-sustaining capacity of the system.

MAJOR PROBLEMS AND ISSUES IN THE EDUCATION AND TRAINING SECTOR IN PAKISTAN

A. Major Problems and Issues

1. Low Level of Literacy

Pakistan has one of the lowest rates of literacy (26.2 per cent, 1981 Census) in the world. The problem of literacy is very closely related with the problem of low enrollment and high dropout at primary level which are, in turn, offshoots of the unprecedented rate of population growth in the country.

The problem of illiteracy is still more crucial in the rural population in general, and rural female population, in particular. In this way, the absence of the desired level of literacy is hampering the overall socio-economic development of the country by adversely affecting the productive capacities of the people.

2. Primary Education

(i) Low Level of Participation Rate

Pakistan stands among the countries with the lowest participation rates at primary level. In spite of the fact that ever since the creation of Pakistan, all the education policies and plans have been firmly committed to universalize primary education, the prevalent situation is not encouraging. At present, hardly 50 per cent of the relevant age group (5-9 years) is attending schools. The major reason for such a low participation rate has been the tremendous rate of population growth.

(ii) Low Participation of Females at Primary Level

The picture is still more dismaying in the case of females in general and, in the case of rural females, in particular. As per Sixth Plan in 1982, the figures for participation of males and females were 68 and 32 per cent, respectively, at the primary stage in Pakistan. In view of this situation, the Plan envisages an increase of 170 per cent enrollment of rural females as compared to 50 per cent increase in the enrollment of urban boys.²⁷

Whereas, the importance of viable planning for achieving such targets cannot be over-emphasized, it seems that the situation would not be improved by the simple provision of educational facilities for females in rural areas unless motivational campaigns for parents to send their daughters to schools are also launched.

(iii) High Dropout at Primary Stage

High dropout rate stands among the most challenging problems of education in general, and of primary education in particular. As a matter of fact, the situation created by already low participation rate at this stage is further aggravated by high dropout. About 50 per cent of those enrolled in Class I dropout without completing Class V. Province-wise, dropout rate (1983-84) is given in the following table.²⁸

Table 8: Showing Dropout Rate (1983-84) at Primary Stage

	Punjab (%)	Sind (%)	NWFP (%)	Baluchistan (%)
<i>Urban</i>	18	43	63	68
Male	12	40	60	56
Female	24	50	70	80
<i>Rural</i>	49	79	71	79
Male	18	77	70	68
Female	56	89	78	93

Among the in-school factors the extremely poor condition of school buildings, lack of equipment and teaching aids, shortage of and absen-

²⁷ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, 1983, p. 339.

²⁸ Bhatti, M. A. et. al., *Primary Education Improvement: Desired Measures*, Islamabad, National Education Council, 1986, p. 66.

teeism among teachers, inadequate supervision, poor communication facilities, unattractive school curriculum and environment, significantly contribute to the situation.²⁹ Drastic reforms to rectify at least the in-school factors will have to be carried out to minimize the high rate of dropout at this stage.

3. Non-Vocationalization of Secondary Education

Non-vocationalization of secondary education has been one of the burning issues and problems at this stage. The New Education Policy, 1970, declared categorically that the content of studies of the existing secondary education program was dominated by a curriculum of a general nature which served mainly as preparatory to higher education. The increasing need for middle-level skilled workers in the developing economy of the country and the enrollment of a growing proportion of the age group in secondary schools warrant that secondary education should have a pronounced technical and vocational bias.

In 1972, about 60 to 70 per cent of students in secondary schools and general colleges were enrolled in arts subjects. The Education Policy, 1972-80, therefore, stood for a massive shift from arts towards science and technical subjects. By 1980, the Policy was hoping to have achieved the target of one-third of the total enrollments if each of the three streams, viz. Arts, Science and Technical/Vocational subjects.³⁰ The financial constraints have, however, always impeded the way to vocationalization of education at the secondary stage. Our past bitter experience of agro-technical scheme in middle schools shows that the simultaneous supply of the technical apparatus and the qualified staff to teach such subjects is of crucial significance to the success of the vocationalization process. In addition to that, it is also advisable that the industries and other agencies which would ultimately absorb the trained personnel are motivated to share the liability of vocationalization to the maximum possible extent.

4. Low Participation of Females at Secondary Level

The low participation of females at primary level in Pakistan affects their enrollment at secondary level as well. The situation can be well-appreciated with reference to the extreme figures of participation at Grades IX-X, ranging between 49 per cent in the case of urban males and

²⁹ Government of Pakistan, *The National Education Policy and Implementation Program*, Islamabad, 1979, pp. 5-6.

³⁰ Government of Pakistan, *The Education Policy, 1972-80*, Islamabad, 1972, p. 10.

just 1 per cent in the case of rural females. The main reason for this unhappy situation has been the rather conservative attitude of the people towards female education along with the absence of educational facilities at the doorsteps of the people. The Sixth Five-Year Plan therefore, aspires to increase the rate of participation of rural females to 2.5 per cent in 1987-88.³¹ In order to achieve this modest target, it is essential that motivational campaigns are launched so as to convince the rural masses of the significance of education for females.

5. Irrelevance of the Curricula of Technical and Vocational Education

Technical and vocational education, in spite of so many efforts made in the past, has not yet taken off in Pakistan in the manner conceived in various policies and plans. Some of its major problems may be mentioned as under:

- (i) It is still not job-oriented and tends to remain theoretical in nature. Most of the institutions tend to harp on the same string and offer training in traditional trades showing little tendency to respond to the emerging needs of the public.³²
- (ii) In spite of the fact that an overwhelming majority (about 70 per cent) of our population is living in rural areas, there is hardly any arrangement to identify the needs and provide training to rural masses so as to make them more productive in order to strengthen this large sector of the national economy.³³ The institutions are located mostly in urban settings.
- (iii) Most of the institutions lack the latest workshop facilities and equipment required for the teaching of technical and vocational subjects.

The brief description of problems faced in technical and vocational education as given above is not exhaustive; it is rather illustrative. In view of the crucial significance of technical and vocational education for Pakistan as a developing country, it is essential to take remedial steps to improve the situation.

³¹ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, 1983, p. 344.

³² Siddiqui, S. A., *Education in Pakistan* (unpublished manuscript), 1983, p. 29.

³³ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, p. 38.

6. Inadequacy of the Practical Component in Professional Education

Professional education, obviously, is always costlier than general education and it directly affects the economic development of the country. According to the Education Policy (1979), professional education is facing numerous problems which include the following:³⁴

- (i) With the exception of medicine and chartered accountancy, no on-the-job training is provided to other professional graduates;
- (ii) Benefits of professional education do not flow directly to the community at large;
- (iii) Absence of close liaison between the training institutions and market and industry;
- (iv) Lack of physical facilities in professional institutions;
- (v) Outmoded equipment and workshop machinery; and
- (vi) Inadequate incentives for teachers of professional education institutions.

The lack of relevance of professional training and education with market requirements is attributed to the fact that personnel working in the private and public enterprises are not involved in preparing the curricula and training programs of the students.

The Sixth Five-Year Plan and the Action Plan for Educational Development have expressed their commitment to uplift and strengthen professional education and training in the country.

7. Deteriorating Standard of Higher Education

There are, at present, around 500 arts and science colleges and 20 universities in the country, including one university in the private sector. In spite of the fact that a few years back, the funding of higher education, especially of the universities was taken over by the Federal Government, most of the universities are still facing acute financial crises. Obviously, this hinders the very functioning of the universities as institutions of higher learning and research.

Another distressing aspect of higher education has been the general feeling that the standard of universities is on a continuous decline. Those who have completed their studies in the universities do not generally demonstrate the ability and the caliber which is generally expected of them.

³⁴ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, p. 87.

B. Training Priorities

1. Literacy

The Sixth Five-Year Plan stands for giving priority treatment to the problem of low-level literacy in the country. It conceives of launching a two-pronged approach attached on it, viz. (i) through designing specific literacy programs, and (ii) through universalization of primary education. It is planned to cover 15 million persons of the age group (10-19 years) under proposed literacy programs up to 1988.³⁵

Furthermore, a new strategy would be adopted to spread literacy during the Plan period. Extensive use of media would be made for this purpose. The methodology would include first-hand teaching combined with distance teaching. Other steps planned to be taken during the Sixth Plan period include the following:³⁶

- (i) Agencies engaged in literacy work would be encouraged;
- (ii) No illiterate person will be employed in Government or semi-public organization;
- (iii) Illiterate persons already employed would be provided educational facilities within a specified time period; and
- (iv) Special emphasis would be laid on the education of women.

Through the recent program of development announced by the Prime Minister, literacy programs are being given a very high priority in the country. Since such programs have to be responsive to local needs so as to motivate the illiterate, more attention is being paid to provide them functional literacy involving local skills. This would expose the rural population not only to literacy and numeracy, but also give them training in relevant skills and thus, generate more income for their families. Reference may also be made here to the ultra-literacy approach of the Allama Iqbal Open University under the project known as the Functional Education Project for Rural Areas (FEPRA). A detailed discussion of the same appears under the programs of AIOU.

2. Primary Education

In view of the low level of participation rate at primary level (48 per cent in 1985) of the relevant age groups (5-9 years), the Sixth Plan envisages to provide educational facilities to 75 per cent of them by the end of the Plan period, i.e. 1988.³⁷

³⁵ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 352.

³⁶ *Ibid.*, p. 353.

³⁷ *Ibid.*, p. 339.

The Plan further provides for the following to ensure the achievement of the target:³⁸

- (i) Recruitment of untrained matriculates as teachers in primary schools;
- (ii) Arranging training programs for teachers to be completed in three installments of five, three and two months' duration;
- (iii) Awarding initial salary scale to the teachers while under training; and
- (iv) Arranging for short in-service training programmed for the training of less-qualified teachers in certain regions.

In addition to the training of primary teachers, the Sixth Five-Year Plan also provides for some other measures to meet the problems of dropouts, low participation of females at primary level, etc. Some of them include the following:³⁹

- (i) Utilization of mosques to accommodate Classes I to III of the new and crowded primary schools;
- (ii) Provision of school buildings for shelterless schools;
- (iii) Introduction of co-education or mixed enrollment in Classes I to III where separate facilities do not exist for girls; and
- (iv) Creation of separate implementing agency for primary education.

3. Secondary Education

In addition to low enrollment ratio, non-vocationalization has been one of the major problems at this stage. Consequently, the Sixth Plan (1983-88) declares that during the Plan period:⁴⁰

- (i) The program of teaching agro-technical groups of subjects, including training in industrial arts, agriculture and commerce will be strengthened;
- (ii) The ongoing training programs in about 3,000 schools at the middle stage and 200 schools at the high stage will be consolidated and strengthened;
- (iii) Training in these subjects will be introduced in Classes VI to VIII and in Classes IX and X in selected high schools; and
- (iv) Trade/technical schools and vocational institutes will be set up mostly in technical trades for the dropouts, after Class VIII or even earlier.

³⁸ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 345.

³⁹ *Ibid.*, p. 341.

⁴⁰ *Ibid.*, pp. 344-345.

4. Technical and Vocational Education

In view of the problems being faced in technical and vocational education, it has been planned to encourage expansion and qualitative improvement of the training programs in the private and non-formal sectors.⁴¹ The Action Plan for Educational Development (1983-88) contemplates a number of modifications in this area as under:⁴²

- (i) Adjustment of the trade school programs into the special plan of development;
- (ii) Introduction of technical middle schools and technical high schools to facilitate skills training for out-of-school youth;
- (iii) Emphasis on skills-training in evening shift programs; and
- (iv) Institution of production units in 15 polytechnics.

The Sixth Plan also stands for strengthening the existing training programs of engineering and other institutions engaged in training the technical manpower. A significant addition to this program will be a network of technical/trade schools and vocational institutes. The Plan further provides for the following:⁴³

- (i) Encouraging the system of training of skilled workers through private and non-formal systems;
- (ii) Expansion and qualitative improvement of the training programs in different subsectors; and
- (iii) Establishing 30 new commercial training institutes of which ten will be for women.

To make the technical and vocational education really responsive to local market needs of the country, it is essential that periodic surveys are undertaken to minimize the gap between them and make technical education more and more responsive to the needs of the individuals and the nation.

5. Professional Education

In view of the crucial significance of professional education for the development of the country, the National Education Policy (1979) stands for certain measures to be taken for its improvement. In the sector of agriculture, the Policy recommends the following:⁴⁴

⁴¹ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 348.

⁴² Government of Pakistan, *Action Plan for Educational Development, 1983-88*, Islamabad, Ministry of Education, p. 51.

⁴³ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 348.

⁴⁴ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, p. 90.

- (i) Provision of real on-the-farm experience to the students of agriculture for a period of eight months, i.e. two months every year;
- (ii) Undertaking of extension services by the teaching staff; and
- (iii) Dissemination of the results of research down to the farmers through the students' community.

The Sixth Plan also makes special provisions to expand and improve training facilities in this sector. It stands for streamlining of the cooperative training institutes for meeting training requirements qualitatively, as well as quantitatively.⁴⁵

In the sector of education in law, the National Education Policy recommends that students should be required to undergo an internship of six months to have training in actual legal proceedings and the preparation of two projects, one on prosecution and one on defense.⁴⁶

In the sector of health, it has been planned to accomplish the following by 1988:⁴⁷

- (i) Producing approximately 21,000 doctors;
- (ii) Doubling the output of specialists from 135 to about 250 per annum;
- (iii) Creation of training positions in all the institutions including district headquarter hospitals and accredited hospitals in the private sector;
- (iv) Setting up a national level curriculum committee to formulate a uniform curricula for all the training institutions at the national level;
- (v) Launching refresher courses for the upgradation of general practitioners;
- (vi) Initiating the training of paraprofessional staff in all the teaching institutions;
- (vii) Increasing the output of nurses by 200 per year to meet the total requirement of 4,470 by the end of the Sixth Plan period, i.e. 1988;
- (viii) Training the Lady Health Visitors (LHVs) and the Public Health Nurses (PHNs);
- (ix) Establishing a school for paramedics in most of the district hospitals; and
- (x) Training of selected females of mature age to serve as midwives in different villages.

⁴⁵ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, p. 126.

⁴⁶ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, p. 90.

⁴⁷ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, pp. 376-380.

6. Higher Education

As already discussed in Section A of this chapter, numerous problems are confronting higher education in Pakistan. Financial constraints, deteriorating standard, absence of higher order research and extremely low level of participation of the relevant age group are the most formidable ones. In view of these problems being faced at the higher education level, the National Education Policy (1979) envisaged certain measures to improve the situation. Some of them are enumerated as under:⁴⁸

- (i) Consolidation of existing universities;
- (ii) Strengthening of Centers of Excellence in various universities;
- (iii) Developing centers of advanced studies;
- (iv) Restricting admission to universities to those who have necessary aptitude;
- (v) Arranging for pre-service and in-service courses for teachers;
- (vi) Encouraging universities to generate their own funds; and
- (vii) Review of curricula and strengthening libraries and laboratories.

In the context of improvement of higher education, other major steps to be taken by 1988 include the following:⁴⁹

- (i) Facilitating the training of university teachers through the provision of study leave;
- (ii) Making arrangements for in-service training;
- (iii) Developing selected university departments into the Centers of Advanced Studies;
- (iv) Establishing privately-owned universities for Science and Technology;
- (v) Improvement of the quality of instruction; and
- (vi) Enrichment of libraries and laboratories in order to provide congenial atmosphere for instruction.

⁴⁸ Government of Pakistan, *National Education Policy and Implementation Program*, Islamabad, 1979, pp. 82-83.

⁴⁹ Planning Commission, *The Sixth Five-Year Plan, 1983-88*, Islamabad, pp. 350-351.

DEVELOPMENT OF DISTANCE EDUCATION IN PAKISTAN

A. Establishment of Allama Iqbal Open University

Though the formal establishment of the distance education institution in Pakistan in the shape of Allama Iqbal Open University came much later, the Pakistan Television Corporation and the Pakistan Broadcasting Corporation had started general education programs aiming at providing education and general awareness to different segments of population in the 1960s. The radio programs for the education of school children during school hours gained a lot of popularity in schools. The students listened to these programs in group form in the presence of the teacher who explained the lesson further to them. In spite of all these sporadic efforts, the system could not make any headway before the Education Policy of 1972-80.

To quote from the Policy,

"Open Universities are being used in several countries to provide education and training to people who cannot leave their homes and jobs for full time studies. A People's Open University will, therefore, be established to provide part-time educational facilities through correspondence courses, tutorials, seminars, workshops, laboratories, television, radio broadcasts and other mass communication media. To begin with, the University will provide facilities in fields and subjects of immediate importance such as the training of elementary teachers and members of the National Literacy Corps and the promotion of rural improvement and community development activities."⁵⁰

In pursuance of the provisions of the Education Policy (1972-80) the National Assembly passed the Enabling Act in May 1974 and thus the Allama Iqbal Open University (then named as People's Open University) came into existence in June 1974. The main objectives of the University as enunciated in the Act may be enumerated as under:⁵¹

- (i) To provide facilities to people who cannot leave their homes and jobs, in such manner as it may determine;

⁵⁰ Government of Pakistan, Ministry of Education, *The Education Policy, 1972-80*, 1972, p. 22.

⁵¹ Allana, G. A., *Distance Education System and the Role of Allama Iqbal Open University*, Islamabad, 1985, p. 3.

- (ii) To provide such facilities to the masses for their educational uplift as it may determine;
- (iii) To provide facilities for the training of teachers in such manner as it may determine;
- (iv) To provide for instruction in such branches of learning, technology or vocation as it may deem fit, and to make provision for research and for the advancement and dissemination of knowledge in such manner as it may determine; and
- (v) To hold examinations and to award and confer degrees, diplomas, certificates and other academic distinctions.

Some of the functions of the University were also reiterated in the Fifth Five-Year Plan (1978-83) which reads:

"During the Fifth Plan, the Allama Iqbal Open University will employ multimedia distance learning techniques to offer in-service training courses for about 200,000 primary and middle school teachers, general foundation courses for 40,000 students who will study about 180,000 course units in science, social studies and languages, and functional education courses to cover 240,000 adults. The pilot foundation course for those who discontinued education after Class VIII will be expanded so as to cover wider geographical areas and include more subjects."⁵²

The Action Plan for Educational Development (1983-88) also appreciates the role of the AIOU in running non-formal education programs and hopes to strengthen them.⁵³

Organization and Administration of AIOU

I. Academic Functions

For academic purposes, the University consists of three faculties. Each of the faculties is headed by a Dean who, as per provisions of the University Act, performs functions as the academic, as well as administrative head of all the departments working within the faculty. The faculties and the relevant departments are as follows:

⁵² Planning Commission, *The Fifth Five-Year Plan, 1978-83*, Islamabad, 1978, p. 156.

⁵³ Government of Pakistan, *Action Plan for Education Development, 1983-88*, Islamabad, 1983, p. 44.

- (i) *Faculty of Basic & Applied Sciences*: This Faculty includes the Departments of: (i) Agricultural Sciences; (ii) Basic Sciences; (iii) Technical and Vocational Education; and (iv) Women's Education.
- (ii) *Faculty of Social Sciences and Humanities*: This Faculty comprises the Departments of: (i) Urdu; (ii) Iqbaliat (study of Iqbal, the famous philosopher poet); (iii) Business Management; (iv) Library and Information Sciences; (v) Arabic and Islamic Studies; (vi) English; (vii) Social Sciences; and (viii) Mass Communication.
- (iii) *Faculty of Education*: This Faculty consists of the Departments of: (i) Educational Planning and Management; (ii) Teacher Education; (iii) Literacy, Adult and Continuing Education; and (iv) Distance and Non-informal Education.

2. Administrative/Services Departments

In addition to the faculties, consisting of academic departments, there are also several other administrative, supervisory and service departments working under the Vice-Chancellor. These departments support the academic needs of the AIOU system and include the following:

- (i) Registrar's Department: comprising sections on establishment, nominations, recruitment, transportation and telephones, admission and mailing, etc.;
- (ii) Treasurer's Department: comprising sections on general matters, budgeting, purchases and foreign aids, etc.;
- (iii) Institute of Educational Technology;
- (iv) Research and Statistical Center;
- (v) Bureau of Course Production and Academic Planning;
- (vi) Directorate of Regional Services;
- (vii) Examination Department;
- (viii) Students Advisor's Office;
- (ix) Central Library;
- (x) Bureau of Information Services;
- (xi) Computer Section;
- (xii) Print and Production Unit; and
- (xiii) Project Directorate.

3. Statutory Bodies

In addition to the above organizational set-up, there are several statutory bodies like the Selection Board and the Finance Committee, etc. which function within their specified spheres.

For the development of courses etc. there are Committees of Courses at the department level and the Faculty Boards at the faculty level. The decisions of these bodies having financial implications are sent to the Academic Planning and Development Committee and those involving media and research are sent to the Research and Technology Committee. After processing the decisions in these bodies they are passed on to the Academic Council and the Executive Council for final approval for implementation.

4. Regional Network

The AIOU operates through its countrywide network of 15 regional/sub-regional offices which serve as the link-points of AIOU to the individual students at the grassroots level. These regional offices, in addition to introducing AIOU courses and programs, also manage the study centers and ensure the delivery of tutorial services to the students throughout the country.

The AIOU is primarily a distance teaching institution using a multi-media technique. The main components of its system are:⁵⁴

- (i) correspondence packages, which include self-learning printed texts and supplementary study material;
- (ii) radio and television broadcasts especially prepared for distance learners;
- (iii) tutorial instruction through correspondence and face-to-face teaching at study centers where possible, with workshops, where appropriate; and
- (iv) course assignments as an instrument of teaching and continuous assessment.

The AIOU after its establishment, has passed several stages of development. There have been improvement and expansion, marked both in the course programs of the University and in enrollment of various courses. The University initially started with only five courses in 1975-76; after five years, by 1979-80, the total number of courses had increased to 32 and by April 1984, it was 71.⁵⁵ Starting from a meager course enrollment of 900 students in 1976-77, the figure went up to over

⁵⁴ Allana, G. A., *Distance Education System and the Role of Allama Iqbal Open University*, Islamabad, 1985, p. 4.

⁵⁵ *Ibid.*

100,000 during 1985-86. Following is the area-wise break-up of students in the April 1986 semester.

Table 9: Showing Level-wise Enrollment in April 1986 Semester

Sr. No.	Courses/Level	Enrollment
1	Functional Courses (non-credit)	3,412
2	Functional Courses (credit) F.A.	5,131
3	Functional Education (B.A.)	2,824
4	General Education (F.A.)	21,922
5	General Education (B.A.)	15,569
6	Arabic Teacher's Orientation Course	1,072
7	Diploma in English (Postgraduate)	57
8	Teacher Education	14,664
Grand Total		64,651

5. Courses of Study

Through its distance training system, the AIOU provides a wide range of courses at different levels. This permits students a fairly wide choice of subjects which can be clustered together to form majoring areas for study purposes. The main clusters are in Humanities, Teacher Education, Technical Education, Business Management, Commercial Education, Social Sciences, Arabic, Pakistan Studies, Population Studies, Islamic Studies, Home Economics and Women's Education.

The University is offering a large variety of programs through its distance teaching system ranging between literacy to Master's levels. Some of these programs are mentioned below:

- (i) M.A./Diploma Program in Educational Planning and Management
- (ii) M.Sc. Pakistan Studies Program;
- (iii) Master in Business Administration (M.B.A.);
- (iv) B.A. Program with different clusters in:
 - (a) International Marketing
 - (b) Commerce
 - (c) Population Studies
 - (d) Language and Literature
 - (e) Open Group
- (v) Intermediate Program;
- (vi) Teacher Education Program at various levels;
- (vii) Secondary School Leaving Certificate (Matric) Program for Women; and
- (viii) Basic Functional Education Program (B.F.E.P.).

Detailed discussion on the abovementioned programs and some projects of the University appears in Chapter IV of this report.

In 1986, the AIOU developed a comprehensive scheme of studies for starting Master's level programs with effect from July 1986. This decision of the AIOU has been widely hailed by different categories of students throughout the country.

It may also be pointed out here that AIOU has also offered various courses to Overseas Pakistani students which has given a boost to the University program.

6. Media Support

AIOU is a media-based university. The printed text of the materials is supported by a number of radio and television programs. These programs are produced at the Institute of Educational Technology and transmitted by radio and television corporations on payment of subsidized rates. Each student receives the schedule of these programs through his learning package. In view of the increasing role of AIOU in expanding education in the country, the President of the Islamic Republic of Pakistan who is also the Chancellor of AIOU, has desired for starting a second channel on radio and television for exclusive use by the educational institutions with major chunk of time for the AIOU programs.

7. Evaluation System

The AIOU believes in continuous assessment of students' work. There is the evaluation of their written assignments by their tutors which is called internal assessment and then there is the evaluation of final written examination in each credit course which is known as external evaluation. In order to be successful in a course, a student must pass in both these components separately. Degrees, diplomas, certificates, etc. awarded by the AIOU are, of course, considered at par with those of other boards and universities of the formal education system.

B. Role of NGOs in Distance Education

Though distance education was formally adopted in Pakistan with the establishment of the Allama Iqbal Open University in 1974, the technique has been in existence in one form or the other for a long time. The technique has been mostly practiced by the NGOs. These organizations have been carrying out their own programs without formal recognition or sponsorship from the Government.

One of the earliest non-government enterprises in distance education pertained to the teaching of photography by some private institutions in Karachi, the ex-capital of Pakistan. Such institutes charge extraordinarily high fees and send correspondence lessons to their students on the technique of photography.

A few missionary organizations have also been carrying on correspondence programs on different lessons of the Bible. These correspondence courses are sent to the students free of any charge, and a regular certificate is issued to them on the completion of the course.

The Adult Basic Education Society (ABES), Gujranwala (Punjab), has long been engaged in literacy work for the adults through a series of television programs telecast on national hookup. It, however, does not run any correspondence course for this purpose.

Some private institutions have also been running distance education courses on biochemic and homeopathic treatment techniques. Among the host of private institutions offering such courses, the name of Mohammadi Tibbi (Medical) Open University, Lahore, stands out as the most conspicuous one. This is a recent addition to such institutions offering medical courses through correspondence.

As the foregoing description of different distance education programs offered by the NGOs reveals, their number and variety is rather limited in scope. Reasons for this phenomenon may be identified, inter alia, as the absence of recognition of their certificates and diplomas by the Government, which tends to discourage the introduction of some more courses by such agencies and the financial constraints being faced by such agencies.

As the Government is liberalizing the conditions to encourage the participation of private enterprise in providing educational facilities for the teeming millions in the form of conventional education institutions, so should be the policy towards the NGOs engaged in distance education programs.

PROGRAMS AND PROJECTS OF ALLAMA IQBAL OPEN UNIVERSITY

The Allama Iqbal Open University is running a number of regular programs as well as projects through its distance teaching system. The programs of the University may be differentiated from its projects in the sense that the latter are launched under sponsorship from some other agency and are meant only for some specified period of time whereas

the former are financed by the University itself and are supposed to continue as its ongoing activities. A brief description of major programs and projects of the University is given below:

A. Programs of AIOU

1. M.A./Diploma Program in Educational Planning and Management (EPM)

The M.A. level program in Educational Planning and Management consisting of ten courses, is one of the earliest Master's level programs of the University. In view of the dire need of the country for properly qualified educational planners and administrators, the program was started by the AIOU in collaboration with the UNESCO Regional Office, Bangkok, towards the end of the 1970s. Admission in the program is accorded on nominations from the provincial departments of education and agencies against the limited number of seats. To begin with, the University was obliged to borrow certain materials from the UNESCO Regional Office, Bangkok to launch the program, but in 1980 the University embarked upon the most challenging task of producing its own materials for this important program relating the planning concepts with actual educational problems of Pakistan.

An M.A. degree is awarded on the completion of eight courses while the Diploma is awarded on the completion of four courses.

2. M.Sc. Pakistan Studies Program

The program aims at producing and training scholars on Pakistani society and its aspects in an integrated and inter-disciplinary way. All persons possessing a Bachelor's degree or equivalent, with any social science subject are eligible for admission in the program.

The following methodology will be used for instruction:

- (i) Prescribed textbooks have been classified as compulsory and suggested readings. These books are listed in the Study Guide.
- (ii) Although to obtain these books will be the individual responsibility of the students, the AIOU will provide limited number of copies at regional center libraries.

For continuous academic guidance, supervision and assessment, the University will provide tutorial support to the students through its regional offices, once in a fortnight.

Although the learning material including prescribed books/other reading material, study guides and assignments are in English, option will be given to students to use English or Urdu in final examination.

3. Master in Business Administration (M.B.A.)

The AIOU has recently started the M.B.A. program. This program aims at providing the students specialized knowledge in business administration and prepares them in the field of business management and other related areas. Like the above Master's level program in Pakistan Studies, this program is also offered in various groups of courses. Each of the groups has been designed to provide specialization to the students in that particular field.

As for the methodology of instruction and the evaluation of students, it is all the same as described in the above program.

4. Postgraduate Diploma in English Language Teaching (ELT)

The Postgraduate Diploma in English Language Teaching (E.L.T.) was one of the earliest Master level programs of the University. It is an in-service training program for college English teachers who wish to improve their qualifications and competencies in teaching English as second language. With its first cycle starting in April 1981, it has so far trained about 400 lecturers from all over the country. Workshops in this program are held in major cities of the country.

As for the contents of this program, some of it may be mentioned below:

- (i) learning theories and their application to the acquisition of skill in speaking English;
- (ii) phonetic system of the English language;
- (iii) importance of English language learning in Pakistan;
- (iv) techniques of classroom teaching; and
- (v) assessment of student's work.

5. B.A. Program

The B.A. program of the AIOU is being offered under five specific groups and one open group. One has to complete eight full credit courses in order to be eligible to receive a B.A. degree. Some of the courses are common in all the groups whereas others are meant only for a particular group. These groups include:

- (i) B.A. (International Marketing);
- (ii) B.Com. (Bachelor of Commerce);
- (iii) B.A. (Population Studies);
- (iv) B.A. (Language and Literature);
- (v) B.A. (General); and
- (vi) B.A. (Open Group).

6. Intermediate Program

Intermediate program is another important program of general education of the University. In order to be eligible for a certificate of Intermediate, one must qualify in six credit courses.

The scheme of studies for the Intermediate program consists of two groups as under:

(i) General Group

This group includes two full credit courses, one each in English and Urdu/Sindhi and two half credit courses, Pakistan Studies and Islamiyat (Religious Studies) or Ethics. The rest of the courses include Rural Development, Bookkeeping and Accountancy, Electricians' courses, Child Care, Economics, Gardening, Household Appliances, etc.

(ii) Open Group

This group includes one credit compulsory (half credit each course in religious studies and Pakistan Studies). Other courses include the ones as mentioned under general group. The open group differs from the other groups in that English is not compulsory in this group.

The courses mentioned above include both functional as well as general. Enrollment trends for various programs show that 16 per cent of the total number of students admitted were in Intermediate functional courses, whereas 28 per cent were in general education courses of this level.

7. Secondary School Leaving Certificate (Matric) Program for Women

The Secondary School Leaving Certificate (Matric) program is one of the most recently added program of AIOU. The absence of secondary school facilities in different areas, especially in the far-flung rural areas, was proving to be a great deterrent for women the University decided to launch this program for female population living in the

far-flung areas of the country. To begin with, this has been started as a project under assistance from the Government of the Netherlands. However, this project has been planned to be taken up as an ongoing program of the AIOU. Detailed analysis of this program has been given in the section on the review of selected projects of the University.

8. Teacher Education Programs

The University is offering a number of in-service teacher-training programs through the distance training techniques. A brief description of these programs appears as below:

(i) B.Ed. Program

The Department of Teacher Education is presently (end of 1986) busy in developing materials for launching the B.Ed. program from April 1987. This would include compulsory courses in education, educational psychology, curriculum organization and management, evaluation, guidance, research, Islam, Pakistan and the Modern World, functional English, along with electives in Science Group, or the Humanities Group and an intensive workshop component plus teaching practice. The degree program is meant for producing secondary level teachers in various areas of specialization.⁵⁶

(ii) Certificate of Teaching (CT)

CT is an upgraded program for teachers at middle (junior secondary) school level. Admission is accorded to in-service teachers on their nomination from their respective employment agencies. It includes one course on Foundations of Education, two electives out of the teaching of Urdu, Social Studies, Home Economics and General Science. The program also involves intensive workshop and teaching practice. Courses on the teaching of Mathematics, English and Islamiyat at middle school level are also in the process of development.⁵⁷

(iii) Primary Teacher's Orientation Course (PTOC)

In terms of enrollment, PTOC is the AIOU's most successful and one of its earliest courses. Launched in 1976, it is a one-semester course

⁵⁶ Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*. Islamabad, 1986, p. 118.

⁵⁷ *Ibid.*, p. 117.

and its main objective is to update the knowledge of the serving teachers in the content and the methodology of all the subjects included in the current national primary school curriculum. So far, it has had its 13 presentation cycles. It has been revised and improved twice and completely rewritten once. Admission to this course is accorded on the nomination of in-service teachers by their respective employment agencies. About 85,000 teachers had been enrolled in the course through their nominating agencies up to April 1985.⁵⁸

(iv) Primary Teacher's Certificate Course (PTC)

First presented in October 1979, with an enrollment of 2,000 teachers nominated by the provincial education departments and the Federal Ministry of Education, this course is meant for untrained primary school teachers with a minimum of one year service. The training course comprises three parts viz.: (i) principles of teaching; (ii) overall content and methodology of the primary school curriculum; and (iii) a practical component of workshop plus supervised teaching practice. So far more than 10,000 teachers working in primary schools have received training through this course.⁵⁹

It may also be mentioned here that both the PTOC and PTC have the weightage of one credit course each for obtaining the Intermediate certificate from the AIOU. This provides an incentive to working teachers who wish to improve their qualifications.

(v) Arabic Teachers Orientation Course (ATOC)

This course carries the credit of a full credit course at Intermediate level. Being launched by the AIOU under mutual collaboration from the Arab League and Ministry of Education, Government of Pakistan, the course comprises 12 weeks of correspondence and a six-week face-to-face workshop. The course contents include the following:

- (a) acquisition of the knowledge of Arabic;
- (b) methods of teaching Arabic; and
- (c) intensive training in language skills viz. listening, reading, speaking and writing.

Middle and secondary school teachers are admitted on nomination from their employment agencies. The course aims at orientating above

⁵⁸ Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*, Islamabad, 1986, p. 117.

⁵⁹ *Ibid.*

4,000 working teachers in three- to five-year's time. A similar course is being launched for college teachers as well.

9. Basic Functional Education Program (BFEP)

The Functional Education Project for Rural Areas (FEPRA) at the AIOU ended on 30 June 1985. Sponsored by the ODA, it was a research project of the University, started in 1982 to develop a workable strategy for providing basic education to the rural masses in order to improve their daily life. From 1 July 1985, FEPRA has been transformed into one of the regular programs of AIOU. The program is now called Basic Functional Education Program (BFEP) and is located in the Department of Literacy, Adult and Continuing Education.

Major activities of BFEP can be divided into three components viz.: (i) background research and pretesting; (ii) development of materials; and (iii) presentation of courses by mobile Educational Development Teams (EDTs) at the regional or subregional centers.

The BFEP is quite a novel experiment in this field. As for the methodology adopted in this program, it is mainly based upon the use of audiocassettes, flip charts, group discussion, etc. The group leader operates the cassette which explains the flip chart and instructs him to shift to the next one. In this way, the cassette and the charts go together. There are also in-built discussion intervals provided to the learners. As guided by the cassette, the group leader conducts the discussion. The courses include child care, poultry-keeping at home, livestock management, electricity in the village, agricultural credits, etc. In this way, the program aims at developing skills of daily use among the rural adults, both male and female, without dependency on literacy skills.

B. Projects of the University

This section contains a brief description of some of the projects of the AIOU. These projects include:

1. Integrated Functional Education (IFE) Project;
2. Civic Education Project;
3. Special Education Project; and
4. Regional Institute for Complementary Education (RICE) Project.

1. Integrated Functional Education (IFE) Project

The IFE project is basically designed to provide literacy to the females. In the first phase, it envisages an 18 month pilot program for

covering five-year primary education of the formal system. It also includes skill training in such handicrafts which are locally salable. It also contains a provision of continuous follow-up and guidance so that the learners are able to continue study up to higher levels through formal or non-formal system.

Women with matriculation qualification have been recruited and provided ten-day orientation in teaching adults.

Initially, 300 illiterate women of Rawalpindi district are being selected in ten rural female groups of 10 to 45-year age range. The instructional material includes: (i) Urdu primer; (ii) workbook for writing practice; and (iii) basic book on arithmetic. The supplementary reading materials deal with the following topics:

- (i) our cultural heritage;
- (ii) folk stories of the area;
- (iii) our family;
- (iv) our agriculture; and
- (v) living within means.

Skills training is given in the following:

- (i) basket-making;
- (ii) embroidery;
- (iii) cutting and sewing;
- (iv) cooking;
- (v) knitting; and
- (vi) as may be suggested by learners.

2. Civic Education Project

The Civic Education Project at the AIOU is being sponsored by the Ministry of Local Government and Rural Development of the Government of Pakistan. The major purpose of the project, as spelled out in the project form is:

"to provide extended facilities of education and training with special reference to Civic Education for local councilors and the public at large. . ."

The above major purpose of the project has been further split into a number of objectives. In connection with the achievement of its objectives, the project is supposed to cover all the 4,637 local councils of urban and rural areas in Pakistan.

Through a series of radio and television programs and some printed materials, the project aims at providing orientation to the local councilors and adults in a variety of areas including the following:

- (i) rights and duties of local representatives;
- (ii) their role in democratic local institutions;
- (iii) rural development;
- (iv) community participation;
- (v) local resources;
- (vi) poultry-keeping; and
- (vii) child and mother care.

Though the final evaluation is yet to be undertaken, it is clear that the project did have an encouraging take-off. Thirty-one out of 72 radio programs have already been produced and put on the air. Work is in progress in respect of the remaining radio and TV programs. Shortage of funds and a change in the Civic Education strategy as a result of a survey conducted in some selected Union Councils have been the major causes of the shortfalls in the 100 per cent achievement of the project targets.

3. Special Education Projects

This project is being undertaken by the AIOU in collaboration with the Directorate of Special Education of the Ministry of Health. The major objective of the project is to produce 200 master trainers and 5,000 trained teachers through the distance education system of the AIOU for teaching the visually handicapped children by October 1989. The target teachers will be exposed to the latest techniques of teaching the handicapped children. They will also undergo practical workshops and intensive teaching practice during the training. Presently, five credit courses (four in theory and one in practical) are being developed and other allied activities are being accomplished by the AIOU staff under its distance education system. The project is assumed to continue till the requirements for trained teachers in Special Education at the national level are fulfilled. Foreign consultancies will also be obtained through the Economic Affairs Division, UNDP and UNICEF at least for one month every year. Observation trips of master trainers will also be arranged under the project.

The courses planned to be offered under the project, include:

- (i) perspective of Special Education;
- (ii) Educational Psychology;
- (iii) Special Education of Visually Handicapped Children;
- (iv) Braille System: A Practical Course;
- (v) Curriculum Development for Visually

Handicapped; (vi) Handicapped Person in the Community; (vii) Dimensions in Education; (viii) Independence Training of the Visually Handicapped Children; and (ix) Practical Face-to-Face Component.

4. Regional Institute for Complementary Education (RICE) Project

The Regional Institute of Complementary Education (RICE) is another recent addition to the AIOU projects. Its total cost is estimated to be around \$11.8 million with a contribution of \$2.6 million by the Government of Pakistan and the remaining amount is to be provided by the member countries of the Organization of Islamic Countries (OIC), the Islamic Solidarity Fund and the World Federation of Arabic Islamic International School.

The RICE, through the distance teaching system of the AIOU is to conceive, organize, extend and follow up educational training and research programs covering the entire Muslim Population in the South Asian Region. This population is estimated to be around 500 million. The target clientele would consist of:

- (i) students of Islamic educational institutions;
- (ii) out-of-school adult Muslim population; and
- (iii) teachers of the Islamic educational institutions.

The RICE is planning to start a number of courses for the target clientele. These courses include, inter alia, Geography of the Muslim World, Muslim Philosophy, General Science, Home Economics, Psychology, Women and National Development, Research Techniques, etc.

C. In-Depth Analysis of Two Selected Projects

In depth analysis of the two major projects of the AIOU is given in this section. These are: (i) the Population Education Project, and (ii) the Women's Education Project.

Population Education Project

(i) Background

The Population Education Project is being implemented by the University under sponsorship from the Population Welfare Division of the Ministry of Planning and Development and the World Bank. The unprecedented population increase in Pakistan during the recent past

has exercised strain on the meager resources of the country. It has not only impeded the overall socioeconomic growth and development of the country, but has also created numerous sociocultural problems. The Government has, therefore, decided to launch viable projects to create awareness in people about the manifold problems associated with the population increase. Keeping in view the ever-extending role of AIOU in mass education, the Population Welfare Division entered into a contract with the University in 1982 with the major objective of providing orientation to 20,000 teachers (12,000 middle and 8,000 secondary school teachers) in Population Education and other allied concepts. The project is based on the well-founded assumption that the teachers, through their classroom teaching and general contact with the community can play a vital role in popularizing the population education concepts among the students and the community at large.

(ii) Objectives of the Project

The objectives of this project are to enable the middle and secondary school teachers to:

- (a) comprehend and describe the meaning and nature of Population Education and other allied concepts;
- (b) describe and use the background statistics of population in Pakistan and the Asian region;
- (c) internalize and make use of the experiences in Population Education in different countries of the Asian region;
- (d) understand and describe the impact of population increase on socioeconomic development in the region and draw inferences from the same;
- (e) integrate the concepts of Population Education while teaching different school subjects; and
- (f) appreciate the dynamic role they can play in resolving the problems created due to population increase in Pakistan.

Keeping in view the categories of teachers to be trained, the project is being implemented in two phases viz.: (i) the Population Education Course for middle school teachers, and (ii) the Population Education Course for secondary school teachers.

(iii) Implementation of the Project

Though the formal handing over of the project to the AIOU took place in early 1982, the course for middle school teachers was launched

in October 1984. This delay in launching the course may be attributed to a number of factors which include:

- (a) identification, recruitment and induction of properly qualified personnel for the project;
- (b) constitution of the Committee of Course including experts from different institutions and organizations keeping in view the multidisciplinary nature of the course;
- (c) conceiving course outline, its improvement and final approval by the Committee of Courses and other relevant bodies and authorities;
- (d) identification, commissioning and orientation of the writers of the course materials;
- (e) improvement, and editing and printing of the course materials;
- (f) motivating and obtaining nomination of the target teachers and finalization of admission; and
- (g) identification and motivation of the tutors in the course.

D. Phase 1 – The Population Education Course for Middle School Teachers

1. Material Production

The Population Education Course for middle school teachers aiming at the orientation of 12,000 middle school teachers was started in 1982 with the approval of the Committee of Courses, the Academic Council and finally the Executive Council of the University. After that, units were assigned to different experts, resource persons and specialists in the field who were given special instructions to make the units self-instructional so as to suit to the distance education system of the University. Draft units written by the unit writers were discussed and further improved in a meeting of the unit writers held at Abbotabad (in the NWFP) in October 1983 after which the same were sent for editing and printing. The first launching of the course took place in the semester of October 1984.

The course discusses topics like population, resources, development, ecology and integration of population concepts with the teaching of other subjects.

In addition to the textbook, AIOU has also developed students' guide as well as tutors' guide and a leaflet containing information about the Population Education Project for wider circulation among the prospective students about the nature, importance and significance of the course.

2. Admission

Students of the course are working teachers having Intermediate (F.A.) qualification. They are admitted to this course in Population Education on nomination from their respective departments. Their departments send their nominations to the AIOU through the network of regional offices of the University.

Since this is a B.A. level half credit course, it is also being offered as a regular B.A. level course of the University in which non-nominees, may be teachers or non-teachers can also take admission. Such students are not required to route their admission forms through the regional offices but directly to the Deputy Registrar, Allama Iqbal Open University, for processing and admission. They are required to pay the prescribed fee and other dues.

3. Methodology

The Allama Iqbal Open University is utilizing the correspondence technique for reaching the target population. Along with sending the packages of material through postal services, it also utilizes the media of radio and television for this purpose.

Since, along with the target teachers, the public at large has also access to the media, nine radio and two television programs based on the course contents have been produced for explaining various concepts covered in the course. Students get the schedule of radio/TV programs along with the other learning materials.

4. Orientation and Appointment of Tutors

Since Population Education is a relatively new discipline in Pakistan, teachers in general do not know much about it. Efforts have therefore been made to compile a list of resource persons and experts in the field who have sufficient experience and received training in this field from various national and international agencies. Tutor briefing workshops are held at regional offices of the University towards the begin-

ning of each semester. Tutors are provided tutor guides containing instructions about guiding the students and evaluating their assignments and providing feedback.

5. Evaluation of Students

Evaluation is an important aspect of the instructional process. Like all other half credit courses offered by the University, students of this course are also required to submit two assignments to their tutors during the correspondence phase. This internal aspect of evaluation forms 40 per cent whereas 60 per cent of the weightage of the overall evaluation is given to student's performance in the final written examination held at the end of the semester. Examination centers are located at different places convenient to students.

6. Improvement of Instructional Materials

Since the course book was developed quite sometime back and it had run its pilot launching, it was revised, updated and improved. In addition to the incorporation of latest data on population, considerable changes were also made in the format of presentation etc. in the light of opinions, observations, comments and suggestions of tutors and students. The revised edition of the course book has been published. Complimentary copies of the book have been sent to different agencies and institutions engaged in population oriented activities.

E. Phase II – Population Education Course for Secondary School Teachers

The second phase of the Population Education Project of the University relates to the launching of the Population Education Course for Secondary School Teachers for the orientation of 8,000 teachers. The outline of this course was developed and improved after detailed discussion with the relevant experts. This course outline was also presented and discussed in a meeting of unit writers for the course for middle school teachers so as to ensure effective articulation in content from middle to secondary level. The course outline was also sent to the Ministry of Education (Curriculum Wing) to consider in the Population Education Cell for their comments and observations. It was further revised and improved before submitting to the Committee of Courses and subsequently to the Academic Council and the Executive Council of the University.

Units were assigned to various unit writers and the whole procedure of unit improvement, editing and printing was followed. The course is now ready and is scheduled to be offered from January 1987. The course discusses in detail population trends in Asia, resources, development, ecology, population policies and programs and integration of population education concepts in the teaching of other subjects.

Like the B.A. level course in Population Education, the course also carries the weight of a half credit Master's level course in Education. In addition to admission to the target graduate teachers on nomination, it is also being offered as an open course in the program offering at M.Ed. level.

The methodology of operation and the evaluation system of the course is similar to the one adopted for the course for middle school teachers offered during Phase I of the project. Nominees of education departments would also get some honoraria to meet their expenditures incurred on attending all the tutorial sessions and appearing in the final examination.

Women's Education Project

(i) Background

The Allama Iqbal Open University has launched the Women Education Project (Matric Level) under the sponsorship of the Government of the Netherlands through a bilateral agreement with the Women's Division of the Government of Pakistan. The major rationale behind this project has been the extremely low level of literacy and overall educational attainment among the female segment of population. The main reason for this state of affairs had been the absence of school facilities at the door steps of rural females. Therefore, most of the people were reluctant to send their daughters to far-off schools. This justified the undertaking of the project under study because of some sociocultural taboos, families observing the veil are especially particular about seclusion and hence are not in favor of female education if the girls are required to go to faraway schools.

(ii) Objectives of the Project

The Project aims at providing education to females through distance teaching technique without disturbing their routine life. The estimated cumulative enrollment of women during the three-year project period is 12,000.

The courses of studies leading to the award of certificate of matriculation (ten-year schooling) for females are being offered to 300 students in the pilot phase. These courses are skill-oriented and respond to the needs, interests and problems of the female population. The courses are being developed by the Department of Women Education of the Faculty of Basic and Applied Sciences in collaboration with other departments of the University. The major objectives of the Project may be enumerated as follows:

- (a) to carry educational facilities to remotest areas of the country where females cannot continue their education due to socio-cultural constraints;
- (b) to provide matric education facilities in such areas where girls have to travel long distance because of the absence of such facilities in their own areas;
- (c) to provide such courses for the females at Matric Level which respond to their specific needs, interests and problems, etc.;
- (d) to introduce vocational orientation to the females at this stage;
- (e) to create an awareness for the importance of education among the females and help them increase their competence; and
- (f) to introduce new skills among the females and sensitize them about the importance of increasing family income.

(iii) Implementation of the Project

The Project is being implemented in three phases as follows. Phase I comprises three semesters and is being started in the district of Attock and other surrounding areas in the Northern Punjab. The courses and other materials, along with the instructional methods and techniques will be tried out for further improvement and subsequent use in the following phases.

Phase II will comprise two semesters and it will cover the districts of Sargodha, Sahiwal, Jhang, Sukkur, Hyderabad and other adjoining areas.

In Phase III there will be two semesters. It would cover the areas of Shorkot, Kabirwala, Vehari, Bahawalpur, Quetta and Muzaffarabad. After Phase III is over, the Project will be converted into a regular program in the University and will be offered at a massive level.

(iv) *Courses of Study*

Courses of study consist of the following:

(a) Compulsory courses (5-1/2 credits)

1. Everyday Urdu	Full credit
2. Functional English	Full credit
3. Pakistan Studies	Full credit
4. Islamiyat (Study of Islam)	Half credit
5. Everyday Mathematics	Full credit
6. General Science	Full credit

(b) Operational courses (2-1/2 credits)

These 2-1/2 credits have to be taken from different groups viz.:

1. Home Economics Group
2. Agricultural Studies Group
3. Health Education Group
4. Vocational and Industrial Group
5. Education Group

(v) *Teaching Methodology*

Teaching methodology for the project courses would be designed, within the broader framework of the distance education system of AIOU. The following are the major components of this methodology:

- (a) *Despatch of study material.* Study material is sent to the students through postal services. They study the self-instructional study material on their own and also complete the self-assessment exercises given therein. This is done during the correspondence phase.
- (b) *Tutoring.* Every student is assigned one female tutor whom she can contact any time and get her educational problems solved.
- (c) *Use of study center.* Study centers are established at places convenient to the students. At these centers, the students hold a contact session with the female teacher on specified dates and time. Attendance at these centers is compulsory in the case of courses involving practical work.

- (d) *Practical work.* Some course units require practical work which has to be accomplished by the students under the supervision of the concerned tutor. Courses involving practical work are Dressmaking, Typing, Electrical Wiring, etc. Successful participation in the sessions of such courses is compulsory for all students.
- (e) *Use of multimedia.* In addition to the printed course materials, the AIOU also makes use of some other teaching aids and media like charts, audiocassettes, radio and television programs.
- (f) *Course Assignments.* The students are required to submit to their tutors the specified number of assignments. The tutor evaluates and sends the same back to the students with her comments for the guidance of the student.
- (g) *Evaluation.* Evaluation of student's work is done in two phases, internal and external. Internal evaluation consists of the performance of students in course assignments submitted by them to the tutors whereas external evaluation consists of the final written examination held towards the end of the semester. The students must qualify in both of these components of evaluation separately to be eligible for the award of Matric Certificate.

F. Evaluation of AIOU Programs

This section discusses in brief the findings of the assessments of different aspects of the AIOU. These aspects include the following:

1. Enrollments
2. Dropout and Pass Rates
3. Urban and Rural Distribution of Students
4. Age Structure of Students
5. Occupational Profile of Students
6. Use of Distance Education Media by Students
7. Cost-Effectiveness of AIOU Programs.

1. Enrollments

As for the enrollments, the earliest assessed program offered by the AIOU was the M.A. (EPM). The enrollment for this program in 1975-76 was 41. It was followed in 1976 by the PTOC with an enrollment of 5,426. Taking this latter figure (itself impressive) as a base, it can be seen that course enrollment has increased nearly twenty-fold, a truly massive increase. In terms of actual students (as opposed to course

enrollments), the same comparison gives almost a 1,000 per cent increase.

It may also be pointed out here that the increase in course enrollment over the last year alone (April 1984-April 1985) is over 50 per cent, indicating that the University is very obviously meeting a real need in the society. This demand is coming not only from the public at large but also from the public service institutions, as the requests for admission in Daftari Urdu course (course for federal government employees in the use of Urdu language for official business purposes), population education courses, and civic education projects, etc. show.⁶¹ The following Table gives an overview of the trend of enrollments in different categories of courses during the last three semesters.

Table 10: Showing Enrollment in Different Courses During the Last Three Semesters

Level	April 1985	October 1985	April 1986
1. Functional (Non-Credit)	2,812	1,904	3,412
2. Functional (F.A.)	6,718	5,715	5,131
3. Functional (B.A.)	1,858	2,294	2,824
4. General (F.A.)	23,948	17,011	21,922
5. General (B.A.)	13,722	12,409	15,569
6. Diploma in English Language Teaching	74	50	57
7. M.A. EPM	343	365	N.A.
8. Teacher Education	8,863	12,947	14,664
9. Arabic Teachers' Orientation Course (offered in alternate Semesters)	1,089		1,072
Total	59,427	52,695	64,651

As the above Table reveals, though there are variations in levelwise enrollments, the overall enrollment of the University is on continuous increase.

2. Dropout and Pass Rates

Clearly, however, while enrollment figures can be impressive, the

⁶¹ Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*, Islamabad, 1986, pp. 43-45.

pass rates and dropout rates are of equal importance. These vary as follows:

Table 11: Showing Dropout Rate of Students from AIOU Courses

Level	Course Titles	Dropout Rate (%)
Intermediate	Electrician's Course	28
	Bookkeeping & Accountancy	67
B.A.	Pakistani Literature	24
	Population Education	76
Teachers Courses	Certificate of Teaching	17
	PTOC	46

The dropout data on different courses indicate that the mean rate of dropouts for 51 assessed courses is 42.5 per cent. This may at first sight seem very high. Reasons for dropout are very difficult to identify, particularly because of the very wide range of courses and types of students involved. For example, students are compulsorily nominated for several of the courses. They may already be qualified at Intermediate level (and beyond), and may simply not be troubled to do the assignments or the examination. Some students may also enroll simply to enrich their studies as full-time or private students, while others may be interested solely in the subject matter, e.g. English, Arabic, Electrical Wiring or Accountancy and not the certificate. However, if the figures are adjusted by including only those who actually participated in the courses by doing both the assignments and examinations, the results alter quite dramatically. For those students who complete the assignments and take the examinations, the mean pass rate is 71.5 per cent, a very high figure indeed, although even here the range is considerable, being as low as 27 per cent for both Bookkeeping and Accountancy and for English (both at Intermediate level).

As the system of the AIOU permits, some of the students may temporarily discontinue their studies for a variety of reasons and again join in the next semester. This happens with most students especially with those who are employed. This temporary discontinuation does not amount to dropping out in the strict sense of the term.

The dropout rate is, in fact, no worse than that of most distance teaching institutions. Indeed, it may compare very favorably with private students at conventional universities in Pakistan (for which no figures are issued) and the pass rates may even be as good as those for full-time students (for which, again, comprehensive statistics are not available).

Being convinced that certain aspects of the programs are also likely to add to the phenomenon of dropout, the AIOU is now addressing itself in the improvement of course quality, together with the quality of the student support system.⁶¹

A study was conducted in February 1984 on a sample of 1,382 students enrolled in different courses of AIOU during the year 1982-83. It included urban-rural distribution, age structure, students' occupations, and use of media.

3. Urban-Rural Distribution of Students

As regards the urban-rural distribution of students, no clear picture emerges, except that, surprisingly, the rural enrollment is 16 per cent higher than the urban. Historically, it is urban people who have taken advantage of increasing education opportunities, but overall it appears to be rural dwellers who are responding to what the AIOU can offer although the picture is not consistent as indicated by the differences between Punjab, Sind, NWFP⁶² and AJK.⁶³ However, this may again be due to geographical/communication factors, in that access (even via the post) may be easier for rural students in Punjab and Sind than in NWFP and AJK. The picture of rural-urban distribution of AIOU students as revealed in the study (N = 1382) is quite interesting. The questionnaire on which this picture is based showed the following urban-rural distribution amongst the samples.⁶⁴

Table 12: Showing Urban-Rural Break-Up of Respondent Students

Province	Urban		Rural	
	Number	%	Number	%
Punjab	401	41	571	59
Sind	25	17	119	83
NWFP	80	69	36	31
Baluchistan	nil	nil	12	100
Federal Area	13	23	43	77
Azad Kashmir	65	79	17	71
Total	584	42	798	58

⁶¹ Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*, Islamabad, 1986, pp. 45-47.

⁶² NWFP: North Western Frontier Province.

⁶³ AJK: Azad Jammu and Kashmir.

⁶⁴ *Ibid.*, pp. 48-50.

4. Age Structure of Students

Table 13 gives the age-wise break-up of the respondent-students who enrolled in various AIOU courses during 1982-83.⁶⁵

Table 13: Showing Distribution of Respondents by Age Groups

Province	Age up to						
	17	23	29	35	41	47	48
Punjab	37	426	273	121	57	12	12
Sind	19	64	26	18	6	3	2
Baluchistan	0	5	3	4	0	0	0
NWFP	2	42	42	16	9	0	2
Federal Area	3	18	21	5	4	0	2
Azad Kashmir	1	29	28	15	5	1	1
Total	62	584	393	179	81	16	19

As the above Table reveals, the lowest response of 35 came from the older age group of 47-48 years (who form just 2.5 per cent). On the other hand, the highest frequency of response (584) was from the 23-year age group which was 42 per cent of the total group. In view of the above, it is evident that the University is successfully attracting people falling within that age group. While giving due attention to the needs of clientele falling in other age brackets, it is highly essential that the University concentrate on constantly improving its offerings by making them particularly responsive to the needs of this group.

5. Occupation Profile of Students

Table 14 indicates the nature of occupation of the respondents. It was interesting to find that the highest majority of respondents were employed (912 or 66 per cent) which is indicative of the fact that people are keen to enhance educational qualification for better jobs or promotion in service. The second highest response came from those who were exclusively students and were not involved in any occupation (246 or 18 per cent). Those involved in household work formed 8 per cent of the total responses. The lowest response of occupation group came from agriculture. This must have been due to a dearth of television or radio facility.

⁶⁵ Allama Iqbal Open University, *Effectiveness of Media: Radio and Television in Distance Education System*, Islamabad, 1984, p. 19.

Table 14: Showing Occupation of Students

Province	Total Respon- dents	Occupation													
		Agricul- ture		Employed		Business		House- hold		Students		Unem- ployed		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Punjab	972	12	1	642	68	38	4	75	8	170	17	18	2	17	2
Sind	144	2	1	71	49	6	4	9	6	50	35	4	3	2	1
Baluchistan	12	0	0	10	83	0	0	1	8	1	8	0	0	0	0
NWFP	116	4	3	86	74	6	5	5	4	13	11	1	1	1	1
Federal Area	56	1	2	38	68	0	0	7	13	9	16	1	1	0	0
Azad Kashmir	82	1	1	65	79	2	2	7	9	3	4	2	2	2	2
Total	1,382	20	1	912	66	52	4	104	8	246	18	26	2	22	2

6. *Student's Use of Media*

Course requirements vary in accordance with its level and assignment of credit. In addition to mailing of reading materials like study units and assignments, there are other useful media facilities provided to students. Table 15 indicates that the percentage of students who used study centers ranged between 45–81; library, 71–100; radio, 24–75; television, 45–81; and cassettes, 41–100 per cent during the completion of various courses. The use of radio and television in course study assumed high importance and ranked first and second, respectively, as compared to the use of other media. Detailed break-up of media use is given in Table 15.⁶⁶

7. *Cost-effectiveness of AIOU Programs*

In January/February 1979, an Evaluation Mission from the UK Overseas Development Administration (ODA) visited the AIOU in connection with the phasing of further assistance to the AIOU. The Mission's report identified the major contribution the University could make to the national economy by training technicians and discussed specific courses (e.g. Electrical Wiring and Electrician's course). The Report further pointed out that several courses in the General Education Program have a strong in-service or employment-related bias, citing the B.A. Business English, B.A. Accountancy, Intermediate Book-keeping and Accountancy, and the Arabic, Urdu and English courses. In this way, by launching such skill-oriented courses, the AIOU can help a lot in accelerating the pace of development in the country.

Whereas it would have been interesting to have a full comparison of the cost-effectiveness of the AIOU Intermediate and B.A. courses, with corresponding costs in the country's conventional system, it was not possible at that time, nor was it feasible to carry out a cost-benefit analysis, by forecasting graduates' potential earnings. The Mission was, however, of the view that taking into account amortization of capital costs, salaries and other recurrent expenditure together with student numbers, the AIOU would progressively show considerable cost advantages over other conventional institutions. The Report stresses that, in conventional education, costs (e.g. classrooms, teachers) increase pro-rata to increases in student numbers. By contrast, AIOU per capita costs decrease as student numbers grow, in that capital and recurrent costs (e.g. salaries, broadcasts) remain virtually the same, irrespective of student numbers.

⁶⁶ Allama Iqbal Open University, *Effectiveness of Media: Radio and Television in Distance Education System*, Islamabad, 1984, p. 20.

Table 15: Showing Student Use of Distance Learning Media and Facilities

Province	Study Centers			Library			Radio Program			TV Program			Cassette			Others		
	Avail- able	Help- ful	%	Avail- able	Help- ful	%	Avail- able	Help- ful	%	Avail- able	Help- ful	%	Avail- able	Help- ful	%	Avail- able	Help- ful	%
Punjab	778	551	70	64	49	77	729	322	44	563	255	45	29	12	41	63	54	86
Sind	125	100	80	7	5	71	91	24	26	95	46	48	4	2	50	10	6	60
Baluchistan	4	3	75	1	1	100	7	4	57	6	4	67	2	2	100	1	0	0
NWFP	65	47	72	12	10	83	82	51	62	62	33	53	3	2	67	12	10	83
Federal Area	47	38	81	1	1	100	42	10	24	29	13	45	1	1	100	5	4	80
Azad Kashmir	20	9	45	12	10	83	60	45	75	31	25	81	2	2	100	8	8	100
Total	1,039	748	71	97	76	78	1,011	456	45	786	376	48	41	21	51	99	82	83

The Report also made two important additional points as follows:

- (i) AIOU courses can result in more efficient and more intensive use of existing educational buildings and facilities in the country; and
- (ii) Foregone earnings, if possible to calculate, would be an important factor in any comparison. It was certainly the case that, in the Functional Teacher Education and General Education Programs, students were able to take courses directly relevant to their work performance and personal prospects while still continuing with their jobs, without loss of earnings and without their employers losing their services (especially in teaching).

Another analysis of the cost-effectiveness of AIOU programs was undertaken by the joint GOP/ODA Review of the University in March 1983. This concluded that the AIOU could provide graduate-level education more cheaply than "conventional universities in Pakistan provided that enrollments were sufficiently high". The basis of calculation was the same as the previous appraisal, i.e. the fixed costs of establishing a media-based educational system like that provided by AIOU are high, but the variable costs are low, in contrast to conventional universities where relative costs are the other way around. Consequently, if enrollments remain low the average cost per student at the AIOU will be higher than at conventional universities, but if enrollments are high it will be considerably lower.

Both the above assessments have been proved to be correct by subsequent analysis which have indicated that with an enrollment of 50,000, average student costs are approximately 30 per cent of the cost of educating a graduate at a conventional university. With higher enrollment, the costs obviously drop proportionately.

Clearly, costs will vary from course to course, but these figures underline the fact that, in financial terms, the University is a sound investment from Government standpoint and that further investment is likely to provide similar, if not even greater, returns.

No doubt that some courses could be more cheaply provided at other institutions, particularly those involving a substantial element of face-to-face instruction (e.g. technical courses).

Accessibility to educational facilities through non-conventional methods is another point that is relevant here. Even if some courses were more expensive, they could be justified on grounds of educational access, particularly for remote areas, or on grounds of social-benefit.

Most courses are in fact far less expensive, even where there is a significant face-to-face element, mainly because of the particular combination of methodology adopted for different courses and programs. This has been very clearly shown by the courses at the basic functional level, where very large numbers of learners can be served by a relatively small force of full and part-time field workers.

Much further analysis is obviously needed on the question of costs. From the studies already made, however, there is no doubt that the University's programs can be, and largely are, viable financial additions to the country's educational provision and, in many cases, they are the only provision accessible to those whose needs are greatest.⁶⁷

As a cost-conscious institution, the University has itself attempted to monitor both the overall and the component cost of each of its study programs. This is a most difficult exercise to undertake and one on which few other institutions provide data. Using what information does exist, however, an interesting comparison emerges. Based on projected intakes for 1987-88 extrapolated from current enrollments, the costs for two levels of award are as follows:

	AIOU	Conventional Institutions ⁶⁸	Difference
<i>Intermediate</i>	<i>Rs3,930</i>	<i>Rs5,688</i>	<i>44.72%</i>
<i>B.A.</i>	<i>Rs5,240</i>	<i>Rs7,250</i>	<i>38.35%</i>

The AIOU figures assess an intake of 105,000 students and take into account the following amortized capital and recurring costs, from which student fee income has been deducted:

(i) Building	60-75 years
(ii) Equipment	10-15 years
(iii) Furniture/fitings	5-10 years
(iv) Vehicles	5 years
(v) Media production	10 years
(vi) Consultants/experts/staff training	15 years
(vii) Library books	7-10 years
(viii) Recurring capital (77-88)	20 years
(after allowing for income)	

⁶⁷ Allama Iqbal Open University, *AIOU: The First Ten Years, 1975-85*, Islamabad, 1986, pp. 51-54.

⁶⁸ Based on estimated 1978 figures given in the Fifth Five-Year Plan; Table 2, p. 301, corrected for inflation by (a cautious) 25 per cent.

ISSUES, PROBLEMS AND SCOPE OF DISTANCE EDUCATION IN PAKISTAN

Ever since the introduction of this innovative system in the country, it has passed through several developmental stages, which has given rise to several problems and issues. These issues emanate from a wide spectrum of attitudes of educators ranging from extreme skepticism to over-optimism about the new system. The controversy between the two groups has led to the identification of a few crucial issues and problems, some of which may be reproduced below.

A. Literacy as a Prerequisite for Distance Education Programs

It has been generally observed that appropriate level of literacy is a prerequisite for admission in various distance education programs. Since the minimum literacy level provides a basis for continuing education even in the absence of a teacher, the distance system can successfully serve the literate clientele. Unfortunately, the rate of literacy in Pakistan is around 27 per cent. This restricts the possibility of fast expansion of the system in the country. The effectiveness of the system has yet to be explored for the illiterate. Efforts need to be made to explore possibilities of using a distance education system first for raising the general level of literacy and then for providing continuing education to the masses. The Basic Functional Education Project of the University represents an attempt in this direction. Other approaches of similar nature need to be explored before the system can be justified for mass scale use in the country.

B. Credibility of the System Among Educated Groups

Another major issue faced by us today is the fact that segments of population overcrowded by the formal system of education tend to be rather skeptical about the credibility of the certificates and degrees awarded through the distance education system of AIOU. No doubt, there is a gradual change in the attitude of the educated groups towards the new approach, but at times, the skepticism of a few important individuals at policy level results in hampering efforts towards the promotion of distance education in the country on a larger scale. That there is only one distance education institution amidst an array of formal educational institutions of various levels also affects the process of recognition. One way to increase credibility could be to create similar institutions in the provinces.

C. Difficulties in Face-to-Face Contact

Nobody can deny the crucial place of face-to-face contact and the importance of interaction between the teacher and the students and among the students in the teaching-learning process. In the distance education system, the provision of the face-to-face contact tends to be minimized. This may affect the quality of learning as students are accustomed to study in a controlled classroom situation.

In courses like teacher training and electrical wiring, etc. participation in practical workshops is a prerequisite for the successful completion of the course. This makes very heavy demands on the already working or employed clientele and also poses immense logistical problems of management on the part of AIOU administration. The problem of coordination between AIOU regional staff and the formal institutions where these practical workshops are held, also poses a great challenge because of the different requirements of the two organizations.

D. Equity in the Evaluation of Student's Performance on Assignment

As the AIOU is a national level distance education institution, students registering in different courses happen to belong to different cultures like rural, urban, developed, underdeveloped, etc. each having its own peculiar types of settings and problems. Whereas the tutors are supposed to maintain a uniform standard of evaluation of students' work, it is imperative for the tutor to take a serious note of the unique conditions of various groups of clientele and give some allowance to students coming from underprivileged classes or areas of the country. Because of the uniformity of curricula and instructional materials, it becomes difficult for the tutors to transgress the limits posed by a uniform system. Although the approved system does not, in any way, provide for such discrimination as the assignments and test papers are centrally set, yet there is room to explore possibilities of readjustment within a broad framework. It is apprehended that the system is likely to militate in a subtle manner against the developmental interests of the underprivileged groups.

E. Usefulness of Radio/TV Programs

Another issue which has confronted the planners of distance education relates to the usefulness and relevance of the AIOU radio and television programs for the diversified needs and interests of the people living in different regions of Pakistan. The common content of radio

and/or television programs tends to be quite redundant for the people who have radically different problems, calling for altogether different contents and techniques. We may cite the example of the entirely different needs of the permanently settled population in the plains of Sind and Punjab and the nomads of Baluchistan or the people living in northern hill areas. The issue may not be a serious one for those groups of people who have overlapping needs and problems, but it turns out to be quite serious if the target clientele has substantially different needs and problems. Serious research input seems to be necessary for the evaluation of media component of AIOU programs so as to make it responsive to varied needs of clientele living in different parts of the country.

F. Cost-Effectiveness Versus Underprivileged Groups

Most, rather all, the distance education institutions of the world are media-based, the developmental as well as recurring costs of which turn out to be almost unbearable at the initial stage. Thus the new approach is quite expensive in developing countries which are already facing acute financial constraints. These constraints do not allow the necessary gestation period which is crucial to make the new approach cost-effective and widely acceptable to educational planners.

Being a developing country, Pakistan has in its population a large variety of underprivileged groups including women in general and those living in rural, far-flung and remote areas in particular. These groups can only be reached through distance education system and by no other means whatsoever. Here the dilemma is that approaching such groups through distance education makes the system highly cost ineffective at the initial stage. Either such groups have to be altogether ignored or educated at extremely enormous cost which may in certain cases be even higher than the formal system, which is simply not feasible for these groups. Consequently, distance education has to be adopted for approaching this clientele, but at very high costs which the planners find difficult to provide. There is no readily available answer to this acute problem, but pilot projects need to be initiated for differential pockets of clientele to test the feasibility of distance education approach even at abnormal costs. Since good teachers are not willing to serve in these areas, creation of formal educational institutions will continue to be an impossible proposition for many years to come.

G. Individualizing Instruction

Just as the usefulness of the distance education system needs to be enhanced for catering to the diversified needs of the people belonging to

different regions, acute need is also felt for increasing the effectiveness of the AIOU system for individualizing instruction, and thus solving the unique educational problems being faced by each individual. The clientele of the AIOU system covers a wide range of sociocultural backgrounds, psychological experiences, and multitude settings and circumstances they are living in. In addition to wide regional dispersals, differences in age groups and a very large variety of occupational experiences and unique needs and interests of individuals also pose serious challenge for meeting differential needs of individuals in an effective manner. This requires more qualitative inputs in the tutorial system as well as increase in frequency of contact sessions and their staggered scheduling at different times to suit the individual needs of the members of the group assigned to a tutor.

H. Training of Distance Education Personnel

Another problem being faced in Pakistan relates to the background and previous experience of the academic personnel engaged for distance education programs. Most of these personnel have been drawn from formal educational institutions and hence lack necessary preparation to meet the specific demands of the system in respect of curriculum development, materials production, evaluation, etc. That is why the system which requires a different approach in dealing with the clientele tends to be over-ridden by the attitudes and values often associated with the formal system. To meet this problem, short-term training programs are being arranged for the staff. In spite of this, the system would have to put up with the impact of the strong background of the conventional and formal educational system for quite some time to come. There seems to be immense potential for starting intensive training programs for distance educational personnel in the region. This is the case with the technical staff engaged in media production programs. In the absence of any specialized training of the staff in the technology of program production, AIOU is facing acute problems affecting the quality of the broadcast and/or non-broadcast materials produced at the AIOU.

I. Scope of Distance Education

The establishment of Allama Iqbal Open University in 1974 marked the beginning of distance education in Pakistan. The AIOU which is still in a transitional stage has witnessed several crucial phases which have contributed in determining its functions and scope and giving it the direction in the present-day context. Since education demands long range investment, it is worthwhile to envisage its future

course of action and speculate on its scope with reference to the interplay of several variables. Such an analysis would help us plan for education in general and the distance education in particular in Pakistan.

It is an admitted fact that institutions of distance education during their gestation period remain closely linked with the existing infrastructure of the conventional system of education. This is because of the fact that there is no institutionalized arrangement for training of distance education personnel and the system has to draw its expertise from the formal system. This has been the case with the AIOU not only during its early years of life but is also likely to hold good for the coming few years.

Not only does the AIOU draw its personnel from the formal system, it has to look for and seek the cooperation of formal education institutions for a number of reasons. The AIOU uses on part-time basis the physical facilities and the staff of formal education institutions for providing face-to-face contact at study centers. Therefore, the success of AIOU programs involving the use of such facilities of the formal system will be determined by the availability or otherwise of the requisite facilities. These facilities belong to the provincial departments of education, and the arrangement is generally finalized because of the personal relationships of the AIOU staff and the heads of the concerned institutions. It is encouraging to note that the formal education institutions and the AIOU have always shown an excellent spirit of collaboration in the past which is likely to continue but still it is desirable that more institutionalized arrangements may be made with the provincial governments to ensure continued support and cooperation.

The success of distance education programs in Pakistan is further determined by the amount of coordination between the AIOU and other universities, provincial education departments and other autonomous research and evaluation institutions. Reasons for this are not far to seek if we have a glance at the variety of the programs and projects of AIOU. It is quite interesting to note that quite a few of the AIOU projects like the Women's Education Project, the Population Education Project, the Daftri Urdu Project, the Civic Education Project, etc. have been started on the request of one or the other of such agencies and organizations. These agencies have entered into special agreements with the AIOU for launching special courses with the specific objectives in view which can best be achieved by the nationwide infrastructure of AIOU. The AIOU draws its clientele from the employee-nominees of these agencies and provincial governments. For example, all the teacher training programs like Primary Teachers Orientation Course, Primary

Teacher's Certificate, Certificate of Teaching, Diploma in English Language Teaching, B.Ed., M.A. (EPM), etc. are exclusively offered to the nominees of different agencies and departments. The emerging scope of AIOU programs would, therefore, be determined to a great extent by the kind and level of such collaboration, initiative for which lies with AIOU.

The fact that the course student enrollment in various AIOU programs has increased from a mere 1,000 in 1976-77 to about 120,000 in 1986 is indicative of the fact that the system has the potential of widescale acceptability throughout the country. The system has ensured second chance to thousands of people for continuing education and enrichment of vocational capabilities without leaving their jobs and daily routines. Some of the reasons for further development of the system at quicker pace may be enumerated as follows:

Sociocultural Factors

Pakistan is a predominantly tradition-ridden society where a variety of sociocultural taboos are still operating, particularly in the far-flung small areas of the country. In the field of education, it is generally the female segment of population which is suffering the most. The relevance of distance education in Pakistan in solving this problem may be appreciated with reference to the following two aspects:

- (i) Non-availability of resources does not permit the provision of educational facilities at the doorsteps of the people, and is hence out of reach for nearly 70 per cent of the population living in rural areas of the country.
- (ii) Since educational facilities may be available to women far-away (semi-urban) situations, the majority of parents holding conservative ideas are not prepared to let their daughters go out of their homes and receive education in distant places. Sociocultural taboos continue to serve as deterrent towards the promotion of education among females.

In view of the situation obtaining in Pakistan, particularly in respect of the female education, the need and significance of distance education in Pakistan assumes new proportions. Since female population is not required to leave jobs or homes, this approach has obviously got the great potential of responding to the educational needs of this hitherto deprived section of population. There is a high proportion of enrollment of female population in University clientele simply because of the fact

that the methodology does not require girls to leave their homes. This proportion is increasing.

It is admitted at the policy level that the distance education experiment started in the form of the AIOU (the then People's Open University) in 1974 has turned out to be a great success. Like many distance education institutions in other developing countries, the AIOU, after an initial phase of doubtful credibility has attained an acknowledged status evident from the fact that AIOU now receives tremendous support from the Government as well as private organizations from within the country and abroad. The University has now successfully entered a phase wherein it has emerged as a resource center for other institutions, agencies and organizations. Along with the utilization of the expertise of the faculty members in organizing their courses and programs, the materials produced by it as a result of research and evaluation are now being used by other agencies as well as formal institutions.

Keeping in view the expanding role of AIOU in promoting the cause of education in the country, the President of Pakistan, who is also the Chancellor of this University, has asked for the installation of separate radio and television channels to be used mainly for broadcasting the AIOU programs.

SUMMARY AND RECOMMENDATIONS

A. Summary

This Report in hand consists of seven major chapters and quite a few tables and annexures.

Chapter I is entitled "Development of Education in Pakistan". This Chapter traces the growth and development of education in Pakistan at different stages since Independence in 1947. The discussion concentrates on the following headings:

1. *Formal Education*
 - (i) literacy;
 - (ii) primary education;
 - (iii) secondary education;
 - (iv) higher education;
 - (v) teacher training;
 - (vi) professional education;
 - (vii) technical and vocational education; and
 - (viii) financing of education.

2. *Non-formal education* (which includes the role of various organizations involved in non-formal education).

While discussing the development of education, extensive use has been made of the different policies and plans promulgated by the Government from time to time.

Chapter II is entitled "Major Problems and Issues in the Education and Training Sector in Pakistan". The first part of this Chapter discusses the major problems and issues in the subsectors of education, as follows:

- (i) low level of literacy;
- (ii) primary education;
 - (a) low participation rate
 - (b) low participation of females at primary level
 - (c) dropout at primary stage
- (iii) non-vocationalization of secondary education;
- (iv) low participation of females at secondary level;
- (v) irrelevance of technical and vocational education;
- (vi) inadequacy of the practical component of professional education; and
- (vii) deteriorating standard of higher education.

The second part of this Chapter discusses the training priorities in education as determined by the National Education Policy (1979); Action Plan for Education Development (1983-88); and the Sixth Five-Year Plan (1983-88) in the light of the problems being faced in the field of education in the following areas:

- (i) literacy;
- (ii) primary education;
- (iii) secondary education;
- (iv) technical and vocational education;
- (v) professional education; and
- (vi) higher education.

Chapter III discusses the establishment of the Allama Iqbal Open University under the Education Policy (1972-80) and further draws upon subsequent policies and plans. The organization of the AIOU, its major programs and the methodology of instruction and evaluation and unrole of NGOs in distance education are the other major topics covered in this Chapter.

Chapter IV exclusively devotes itself to AIOU. It is, therefore, entitled "Programs and Projects of Allama Iqbal Open University". This Chapter consists of the four main sections as under:

- (i) Programs of the AIOU;
- (ii) Projects of the AIOU;
- (iii) In-depth analysis of two selected projects; and
- (iv) Evaluation of the AIOU.

Chapter V, i.e. the last major chapter of the Report is entitled "Issues, Problems and Scope of Distance Education in Pakistan". Major issues and problems discussed in this Chapter pertain to the literacy level of the target groups creditability of the system, face-to-face contact, student's evaluation, radio/TV programs, cost effectiveness, and individualizing instruction. The last part of the Chapter discusses the scope of distance education in Pakistan in view of variable like cost effectiveness, individual motivation, and sociocultural factors as prevailing in the country.

B. Recommendations

In order to strengthen the process of distance education in Pakistan, the following measures may be adopted by relevant agencies/organizations.

1. Staff Development

Since the AIOU has been drawing its personnel mostly from the formal education institutions, it is desirable that they are provided intensive orientation in distance education to enable them to perform their functions more efficiently.

Training in distance education techniques should be made a regular feature, facility for which may be made available to every faculty member after every three to four years. Such training may consist of study tours, observation trips, refresher courses, etc. in any distance education institution of international repute.

Since AIOU is expanding rapidly and the number of courses is on the increase, facilities for advanced foreign training may be provided to the staff, especially in areas in which training facilities do not exist within the country.

The links of the AIOU could be established with other distance education institutions and programs of exchange visits of the professional staff may be sponsored by international agencies.

Renowned institutions of distance education in the region may be identified and strengthened to serve as resource centers in the following crucial areas of distance education:

- (i) correspondence material development;
- (ii) production of radio programs;
- (iii) production of TV programs;
- (iv) production of non-broadcast materials;
- (v) development of infrastructure for outreach system; and
- (vi) research, statistics and evaluation.

2. Printing Press for the AIOU

In view of the ever-increasing number of courses of the AIOU, it is inescapable that it should have its own printing press to ensure timely printing of books, launching of courses and mailing of the course materials to the students. The new building for the press has already been constructed and a modest printing unit has been established for routine work. Installation of a computer word processor in the press would facilitate quick start of the printing press and enable AIOU to undertake printing of course materials at a large scale.

Along with providing the printing press to the AIOU, it is also essential to make financial allocations for meeting the replacement expenditure etc. of its major parts and consumable items. This should be taken care of on a regular basis in order to avoid unforeseen situations.

3. Library Development

In view of the AIOU's commitment to offer wide variety of courses in the latest and emerging disciplines, international support may be provided through the supply of latest books, periodicals, journals, etc. on the relevant subjects.

An Audiovisual Resource Center may be created in the AIOU Library to provide distance education materials of other Open Universities of the region to the faculty of the University.

In order to ensure access to worldwide resources on microfilms, microfilm equipment needs to be installed in the Library with abundant supply of microfilm books, journals and other such resources.

4. Provision of Consultancy Services

Consultancy services in new areas/programs may be provided to the University on a regular basis.

5. Installation of Second Radio/TV Channels

In view of the increasing role of media in distance education courses, the number of which is on continuous increase, second radio/TV channels may be installed exclusively for broadcasting/telecasting educational programs giving adequate time chunks to AIOU. This would ensure broadcasting of AIOU programs at the times most suited to the AIOU clientele and other students at large.

6. Enrichment of Existing Radio/TV Studies

The existing radio/TV production facilities of AIOU may be strengthened so as to provide the latest facilities in them to meet growing requirements of the AIOU programs.

With the increase of pressure of production of radio/TV programs, acute need is being felt to establish second radio/TV studios in the Institute of Educational Technology. These new studios would not only ease the pressure on the existing studios, but also enable the University to introduce qualitative changes in the production techniques.

Since the replacement of some of the materials in the existing radio/TV studios has always been a problem for the University, it sometimes tends to affect the production schedule. It therefore calls for a regular system of replacement of certain equipment. Repair and maintenance system needs to be institutionalized on a regular basis.

7. Installation of Microcomputers

With the creation of vast infrastructure of AIOU in the 16 regions, it seems necessary that microcomputers may be installed for the AIOU executives and regional directors. These computers would facilitate two-way communication between the region and the headquarters and assist in the instant solution of problems as well as transmission of crucial information.

8. Entrusting Higher Education Exclusively to AIOU

In view of the extremely high cost of higher education in the institutions of formal education, higher education may be entrusted exclusively to the AIOU which would need very meager capital costs to start the program. As for the variable costs (per student) the same would obviously decrease further as the number of students increases in a phased manner.

AIOU staff presently engaged in higher education courses may be provided orientation in selected disciplines, keeping in view their specializations and the intended programs of the University.

9. Provision of Appropriate Physical Facilities for Regional Offices and Study Centers

In view of the rapidly increasing number of courses and consequently the departments and services, etc. appropriate physical facilities in the form of duplication, photostat equipment, etc. may be provided in the Regional Offices to ensure their smooth functioning. More model study centers may be created by providing TV sets, VCRs, radio/audio-cassette recorders, overhead projectors, filmstrips, slide projectors and other relevant equipment.

10. Current Projects to be Made Ongoing Programs

There are a number of projects under which different levels of credit courses are being offered by AIOU. In view of their long-standing place and significance in the overall development of academic programs and at the same time their wide-scale acceptability among the clientele, they may be converted into ongoing programs of the AIOU.

Appendix A

STATEMENT SHOWING POPULATION OF PAKISTAN - 1986
(Estimated)

(In millions)

	All Age Groups	0-8 Years	9-10 Years	11-17 Years	18-25 Years	26-45 Years	46 and above
Total	97.7	28.6	5.9	14.35	17.75	20.9	10.15
Male	51.2	14.5	3.2	7.75	7.7	10.7	7.4
Female	46.5	14.15	2.7	6.55	10.0	10.25	2.75
Rural	69.3	20.7	4.35	9.87	9.8	14.63	9.9
Urban	28.4	7.9	1.6	4.43	8.0	6.3	0.21

Note: Figures have been rounded where necessary.

Appendix B

STATEMENT SHOWING NUMBER OF PRIMARY SCHOOLS
AND THEIR ENROLLMENT AND TEACHERS
1986-87

Primary Schools (Grades I-V)	Number of Schools*		Enrollment (in million)		Teachers	
	Total	Female	Total	Female	Trained	Untrained
Total	91,000	26,000	8.5	2.9	240,000	30,000
Rural	74,000	19,000	5.3	1.3	132,000	27,000
Urban	17,000	7,000	3.2	1.6	108,000	3,000

* This includes Primary Units in Middle/High Schools as well as New Light (Literacy) Mosque/Mohallah Schools. It does not include data for about 16,000 schools operating in the private sector. Data for rural-urban composition is estimated on the basis of other relevant figures.

Appendix C

STATEMENT SHOWING NUMBER OF SECONDARY SCHOOLS, THEIR ENROLLMENT AND TEACHERS (1986)

Enrollment Secondary Schools (Grades VI-X)	Number of Schools	(in million)		Teachers	
		Total	Female	Trained	Untrained
Total	11,200 ^a	2.9	0.8	160,000	18,000
Rural	9,100 ^b	1.1	0.2	55,000	13,000
Urban	2,100	1.8	0.6	105,000	5,000

^a Includes both middle (VI-VIII) and high schools (IX-X).

^b Data for rural-urban break-up is estimated on the basis of other relevant data.

Appendix D

STATEMENT SHOWING NUMBER OF INTERMEDIATE COLLEGES, THEIR ENROLLMENT AND TEACHERS - 1986

Intermediate Colleges/Classes (Grades XI-XII)	Number of Colleges	Enrollment (000)		Teachers
		Total	Female	
Total	481 ^a	250	80.0	3,100 ^b
Rural				
Urban				

Note: ^a Out of 481 colleges, 285 colleges have Grades XI-XIV and even up to Grade XVI. On the other hand, 196 colleges are exclusively meant for Grades XI-XII. As for rural-urban break-up, it is not available. Colleges are, however, located in urban/semi-urban areas, and cater to the needs of both rural and urban population.

^b Does not include teachers of intermediate classes working in degree colleges. This figure applies to 196 intermediate colleges only.

Appendix E

STATEMENT SHOWING NUMBER OF DEGREE COLLEGES,
THEIR ENROLLMENT AND TEACHERS - 1986

Degree Colleges Grades XI-XIV or Grades XI-XVI	Number of Degree Colleges	Enrollment (000)		Teachers
		Total	Female	
Total	285 ^a	275 ^b	90 ^b	13,000 ^c
Rural				
Urban				

Note: ^a All the degree colleges are located in urban areas, but also cater to both urban and rural population. These colleges have also been included under intermediate colleges because they include Grades XI-XII as well.

^b Does not include enrollment in intermediate classes in degree colleges as it has been included in Appendix D.

^c Number of teachers includes teachers teaching in both intermediate and degree classes in degree colleges.

Appendix F

STATEMENT SHOWING NUMBER OF UNIVERSITIES, THEIR
ENROLLMENT AND FACULTY - 1986

Universities	Number of Universities	Enrollment		Faculty
		Total	Female	
General	12	45,000	11,000	3,600
Technical	8	19,000	5,000	1,800
Total	20	64,000	15,000	5,400

Note: Data for two private universities, recently established by various organizations, is not available as yet.

Appendix G

STATEMENT SHOWING NUMBER OF PROFESSIONAL COLLEGES, THEIR ENROLLMENT AND TEACHERS - 1986

Professional Colleges	Number of Colleges	Enrollment		Teachers
		Total	Female	
1. Medical*	34	21,647	5,485	953
2. Teacher Training Colleges	17	4,987	2,106	535
3. Commerce	16	6,515	1,122	329
4. Law	13	8,187	271	115
5. Engineering & Technology	11	14,295	576	673
6. Home Economics	5	773	773	152
7. Agriculture	3	8,049	132	867
8. Fine Arts	1	185	109	43
Total	100	64,638	10,574	3,667

Note: * Including Homeopathy and Tibb (Indigenous Medicine) institutions and their enrollment.

Appendix H

STATEMENT SHOWING NUMBER OF TECHNICAL/VOCATIONAL TRAINING INSTITUTES THEIR ENROLLMENT AND TEACHERS - 1986

Technical/Vocational Training Institutes	Number of Institutions	Enrollment		Teachers
		Total	Female (in thousands)	
Polytechnics	36	15,000	300	990
Commercial Institutes	68	18,500	310	750
Technical/Vocational Training Institutes	99	13,500	1,100	650
Teachers Training Institutes/Schools/Colleges of Elementary Education*	114	12,700	2,600	2,100
Total	317	59,700	4,310	4,490

* Includes all teachers' training institutions below degree level.

POPULATION BY SEX, URBAN/RURAL AREAS, 1972 and 1981 CENSUS
(In thousands)

Region/ Province	Population									Density
	Total			Urban			Rural			(per sq. km)
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	
1972 CENSUS										
PAKISTAN	65,309	34,833	30,476	16,594	9,027	7,567	48,715	25,806	22,909	82
Islamabad	235	130	105	77	46	31	158	84	74	259
Punjab	37,610	20,211	17,399	9,183	4,977	4,206	28,427	15,234	13,193	183
Sind	14,156	7,574	6,582	5,726	3,131	2,595	8,430	4,443	3,987	100
NWFP	8,389	4,363	4,026	1,196	647	549	7,193	3,716	3,477	113
Baluchistan	2,428	1,289	1,139	399	218	181	2,029	1,071	958	7
FATA	2,491	1,266	1,225	13	8	5	2,478	1,258	1,220	92
1981 CENSUS										
PAKISTAN	84,253	44,232	40,021	23,840	12,766	11,074	60,413	31,466	28,947	100
Islamabad	340	185	155	204	113	91	136	72	64	376
Punjab	47,292	24,860	22,432	13,051	6,951	6,100	34,241	17,909	16,332	230
Sind	19,029	9,999	9,030	8,243	4,433	3,810	10,786	5,566	5,220	135
NWFP	11,061	5,761	5,300	1,665	898	767	9,396	4,863	4,533	148
Baluchistan	4,332	2,284	2,048	677	371	306	3,655	1,913	1,742	12
FATA	2,199	1,143	1,056	-	-	-	2,199	1,143	1,056	81

- Not available

Source: *Economic Survey, 1985-86*
Islamabad, p. 5, Table 1.3

Appendix J

**LITERACY RATIOS OF POPULATION BY SEX, REGION AND
URBAN/RURAL AREAS
1981 AND 1972 CENSUS**

Sex	TOTAL		URBAN		RURAL	
	1981	1972	1981	1972	1981	1972
	10 Years & above	10 Years & above	10 Years & above	10 Years & above	10 Years & above	10 Years & above
PAKISTAN						
Both Sexes	26.2	21.7	47.1	41.5	17.3	14.3
Male	35.1	30.2	55.3	49.9	26.2	22.6
Female	16.0	11.6	37.3	30.9	7.3	4.7
ISLAMABAD						
Both Sexes	51.8	40.1	63.3	67.3	33.8	26.5
Male	63.1	53.2	71.3	72.7	49.6	41.8
Female	37.5	22.7	52.7	58.2	15.9	8.3
PUNJAB						
Both Sexes	27.4	20.7	46.7	38.9	20.0	14.7
Male	36.8	29.1	55.2	47.8	29.6	22.9
Female	16.8	10.7	36.7	28.0	9.4	5.2
SIND						
Both Sexes	31.5	30.2	50.8	47.4	15.8	17.6
Male	39.7	39.1	57.8	54.5	24.5	27.5
Female	21.6	19.2	42.2	38.4	5.2	5.8
NWFP						
Both Sexes	16.7	14.5	35.8	33.7	13.2	11.0
Male	25.9	23.1	47.0	44.7	21.7	19.0
Female	6.5	4.7	21.9	19.9	3.8	2.2
BALUCHISTAN						
Both Sexes	10.3	10.1	32.2	32.2	6.2	5.6
Male	15.2	14.8	42.4	42.4	9.8	9.2
Female	4.3	4.2	18.5	19.2	1.8	1.2
FATA						
Both Sexes	6.4	4.9	--	--	6.4	--
Male	10.9	--	--	--	10.9	--
Female	0.8	--	--	--	0.8	--

FATA: Federally Administered Tribal Areas

-- Not available

Source: *Economic Survey: 1985-86, Islamabad, p. 7, Table 1.5*

Appendix K

GOVERNMENT EXPENDITURE ON EDUCATION BY LEVEL

(Rs. Million)

Year	Total Expenditure	Primary Education	Secondary Education	College Education	University Education	Technical Education	Teacher Education	Other Items	Develop- mental Expenditure	Non-deve- lopmental Expenditure
1947-48	30.4	11.0	5.4		1.9		8	4.1	..	..
1949-50	43.9	20.8	9.6		6.5		1.3	5.7	..	..
1960-61	133.1	65.3	47.2	23.4	18.1	5.3	2.1	31.7	38.1	155.0
1965-66	509.2	147.2	67.3	38.2	43.1	42.2	12.7	157.9	177.5	331.7
1970-71	739.9	221.9	93.8	45.3	92.0	81.9	24.4	230.6	309.5	480.4
1975-76	2,482.2	767.3	431.3	249.4	174.3	326.1	38.5	501.3	751.1	1,731.1
1979-80	4,133.5	1,604.4	820.4	387.5	426.2	518.7	71.0	325.3	1,060.2	3,093.3
1980-81	4,619.1	1,570.5	918.8	427.6	459.2	546.5	57.4	639.1	1,240.5	3,378.6
1985-86 (E)	11,317.7	4,051.7	2,886.0	1,199.7	1,075.2	690.4	249.0	1,165.7	3,011.3	8,306.4

.. not available.

E: estimated.

Source: Economic Survey, 1985-86, Islamabad, 1986, p. 170, Table 12.4.

AIOU STUDY CENTRES - SEMESTER-WISE
APRIL 79-85

Sr. No. Region	April 79	Oct. 79	April 80	Oct. 80	April 81	Oct. 81	April 82	Oct. 82	April 83	Oct. 83	April 84	Oct. 84	April 85
1. Peshawar	4	6	6	6	6	7	7	9	11	11	11	14	15
2. D.I. Khan	-	-	-	-	-	-	-	-	-	-	1	2	5
3. Quetta	1	4	4	4	4	4	4	4	4	4	5	18	22
4. Karachi	4	4	7	9	9	9	9	10	10	10	10	10	11
5. Hyderabad	-	-	3	3	8	14	23	29	57	65	65	69	74
6. Sukkur	-	-	-	-	-	-	-	-	-	-	23	25	38
7. Multan	2	9	10	10	14	15	15	20	26	28	12	13	15
8. Bahawalpur	-	-	-	-	-	-	-	-	-	-	6	7	8
9. Lahore	4	10	11	12	12	12	14	16	19	19	19	19	20
10. Faisalabad	2	8	11	11	13	15	15	14	18	22	24	25	26
11. Rawalpindi	6	18	19	19	19	20	19	17	18	18	20	21	22
12. Mirpur A.K.	5	7	13	15	15	17	19	19	21	21	42	44	48
13. Islamabad	-	-	-	-	-	-	-	-	-	-	3	3	3
14. Gilgit	-	-	-	-	-	-	-	-	-	2	2	2	2
Total	28	66	84	89	100	113	125	137	184	200	243	272	309

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Distance Education in the Republic of Korea

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INTRODUCTION

A. Socioeconomic Development

Korea occupies a peninsula extending south from the northeastern corner of the Asian continent. The total land area of approximately 220,000 sq km is politically divided between north and south in the ratio of about 6:5. The southern part constitutes the Republic of Korea, which is referred to as "Korea" in this study.

Before the second half of the present century, Korea was an agrarian society, poor in natural resources. Thanks to a succession of five-year plans implemented since the 1960s, Korea's economy has achieved rapid growth. Not only has it expanded quantitatively, but the economic structure has improved qualitatively as well. This rapid development has transformed the Korean economy from a largely agricultural economy to a newly industrialized one.

The Korean Government had successfully implemented four five-year economic development plans since 1962 and commenced its fifth five-year plan for economic and social development in 1982. The fifth plan emphasizes balanced development so as to reduce disparities between segments of the population or between different regions. This is intended to promote an equitable distribution of the fruits of economic growth. It is for this reason that, unlike the four previous five-year plans which were economic development plans, the fifth plan is called the economic and social development plan.

Rapid economic development has brought about far-reaching social changes such as the breakdown of class barriers and an increase of demographic mobility. Urbanization is pronounced. Occupational diversity has dramatically increased, and there has been a considerable rise in the general standard of living as revealed by the per capita GNP equivalent to \$2,032 in 1985. These substantial improvements have resulted in expanded opportunities at all levels of education.

Korean society is expected to witness a transformation in the coming years. The basic needs of the people such as housing, nutrition and medical care will all be met. The earning capacity of low income groups will increase. The social security system will also be upgraded and enlarged. The cultural life of the people will be promoted by the elevation of income and education level and through the widespread diffusion of mass media. In order to sustain the economic growth indispensable for these social advances, Korea, overcrowded and lacking natural resources, will strive to become a highly technological society by intensifying the cultivation of the human potential.

B. Population

Although Korea's population growth has recently declined to 1.6 per cent from the high rate of 3 per cent per year of the 1960s, the population of Korea passed 40 million in 1983. Population density is about 406 persons per sq km, one of the highest in the world. Should the current trend remain unchecked, the population growth could reach 60 million by the year 2050, on the assumption that couples raise only two children.

C. National Development Priorities

Korea's revised Fifth Five-Year Economic and Social Development Plan (1984-1986) sets the following priorities.

The development of technology-oriented industries will be spurred on in order to raise the nation's level of technology to that of industrialized countries, thus enabling Korean industries to better compete in the world market. High priority will be given to technological innovation and to small and medium-sized manufacturers so as to strengthen the overall competitiveness of Korean industries. At the same time, greater efforts will be exerted to increase agricultural productivity and to boost rural incomes.

Social overhead capital and other public facilities will be expanded and upgraded. Vigorous efforts will be made to ease the population concentration in the Seoul metropolitan area and to expedite regional development. Attempts will be made to develop social welfare programs commensurate with the ability of the Korean economy to pay for them. A social environment aimed at equal opportunities will be promoted.

DEVELOPMENT OF EDUCATION

A. Literacy

Illiteracy in Korea today is negligible. The first six years of elementary education are free and compulsory, and the Government is planning to extend its compulsory education system to nine years in the near future. About 97 per cent of the primary school children go to three-year middle school while around 88 per cent of the middle school graduates continue their education into high school. Unlike many other nations in the world, the ethnic composition of the population is very

simple, since virtually all Koreans are one race speaking the same language. The language of instruction is Korean, and thus the literacy rate is extremely high.

B. Formal Education

The Korean educational system is based on the six-three-three-four year pattern: six years of elementary school, three years of middle school, three years of high school, and four years of university or college. Each school has two semesters in one academic year. The first semester starts on 1 March, ending on 31 August. The second semester begins on 1 September, finishing at end of February the following year. The Korean educational system has expanded significantly at all levels because of an intense desire for education on the part of the people and the increased investment in education by the Government.

1. Primary Education

Enrollment in elementary school is stipulated by law for all children who have reached the age of six. Primary education is free of charge. The rate of enrollment for school age children in elementary schools is almost 100 per cent.

One of the current problems of primary education is congestion, especially in large cities. Because of classroom shortages some elementary schools have to operate in two daily shifts, and some of the existing school facilities are obsolete and inadequate. The Government plans to split some of the larger schools into smaller units, thus easing classroom congestion and eliminating classes in two shifts during the 1982-1986 period.

2. Secondary Education

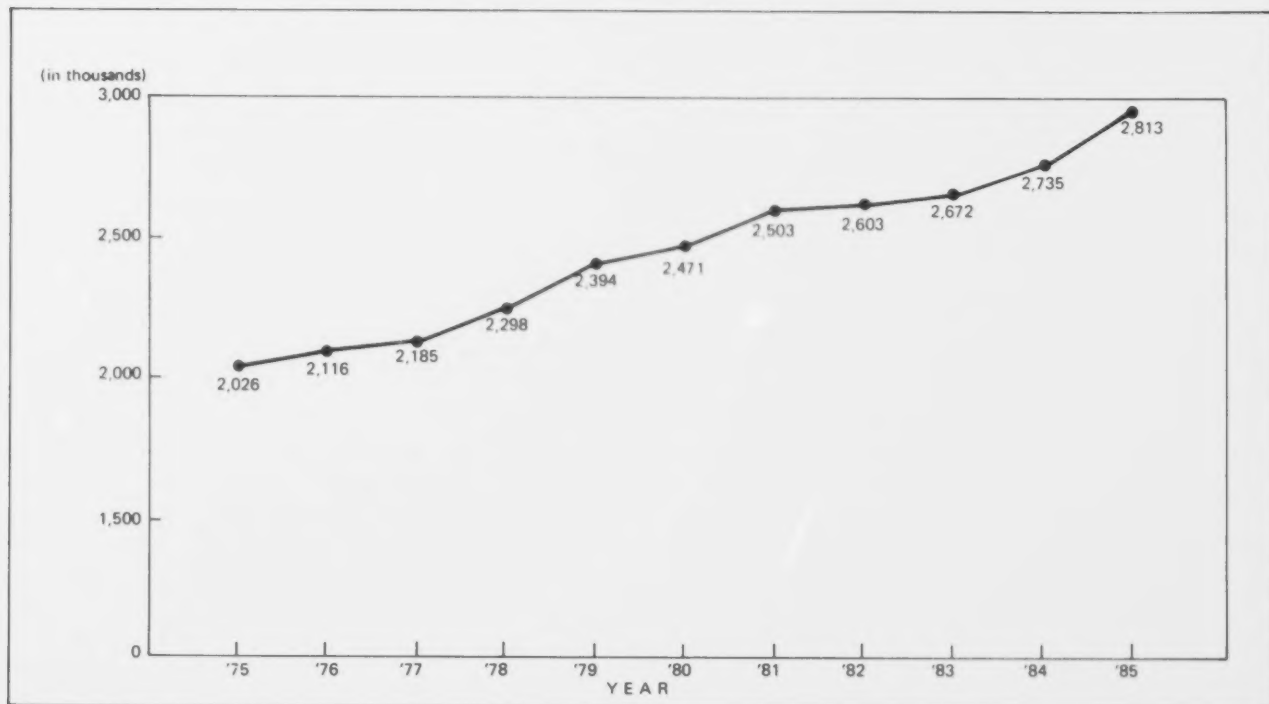
Secondary education is provided in three-year middle schools and three-year high schools.

(a) Middle Schools

Admission is granted to graduates of elementary schools and to those found to be similarly qualified. Tuition is borne by the student.

Entrance examinations for middle schools were abolished in 1969, and all applicants are accepted and assigned to schools within the school district of residence by lottery. Some 97 per cent of all elementary

Table 1: TRENDS IN MIDDLE SCHOOL ENROLLMENT, 1975-1985



school graduates move on to middle school, and the ratio is rising. Compulsory and free middle school education introduced in the rural areas in 1985 is expected to extend throughout the nation by the target year, 1991.

(b) High Schools

High schools are classified into general, vocational and other high schools. Admission is granted to middle school graduates and those adjudged to be similarly qualified. Tuition is paid by the students.

A revised high school entrance examination system was put into force in 1974, according to which, entrance examinations are given to all the applicants. They are assigned to schools by lottery within the school districts of residence in the order of test results. There are some differences in implementation procedures between large cities subjected to the "equalization" reform and other areas. In large cities, assignment is first made to vocational high schools, and in the second stage to general high schools. Some 88 per cent of all middle school graduates enter high schools.

General high schools: General high schools are those which provide higher general education. The rate of increase in enrollment has been higher for general than for vocational high schools partly because the latter category of schools cannot accommodate all applicants. From the second year of general high school, students choose courses out of humanities, natural sciences and vocational training, according to their preference and aptitude.

Vocational high schools: Vocational high schools are those which provide specialized education in such fields as agriculture, engineering, commerce, and the fishery and marine industry.

Enrollment in agricultural high schools has been declining in spite of the standing government policy of "parallel development" of agriculture and industry causing some of them to be converted into general high schools. Agricultural high school students who choose an independent farming career receive free tuition, scholarships, dormitory facilities and subsidies for settling on the farm.

Engineering high schools are responsible for the training of qualified technical personnel to keep pace with the government policy for the development of heavy and chemical industries. Some of the engineering high schools have been further specialized into model engineering, special engineering and mechanical engineering high schools.

Commercial high schools offered classes in computer sciences to meet the requirements of the burgeoning computer industry.

There are nine fishery and marine high schools, all located in port cities. After completing the regular curriculum in the fishery and marine schools, the students are offered onboard training for six months.

Other special high schools provide vocational training in music, painting, drama, choreography, etc. Athletically talented elementary and middle school graduates are admitted into physical training secondary schools. The trend of enrollment in general and vocational high schools is shown in the table on the next page.

3. Higher Education

Institutions of higher education include: (i) universities and colleges; (ii) teachers' colleges and colleges of education; (iii) junior vocational colleges; (iv) air and correspondence university; (v) open university; and (vi) miscellaneous schools.

(a) Universities and Colleges

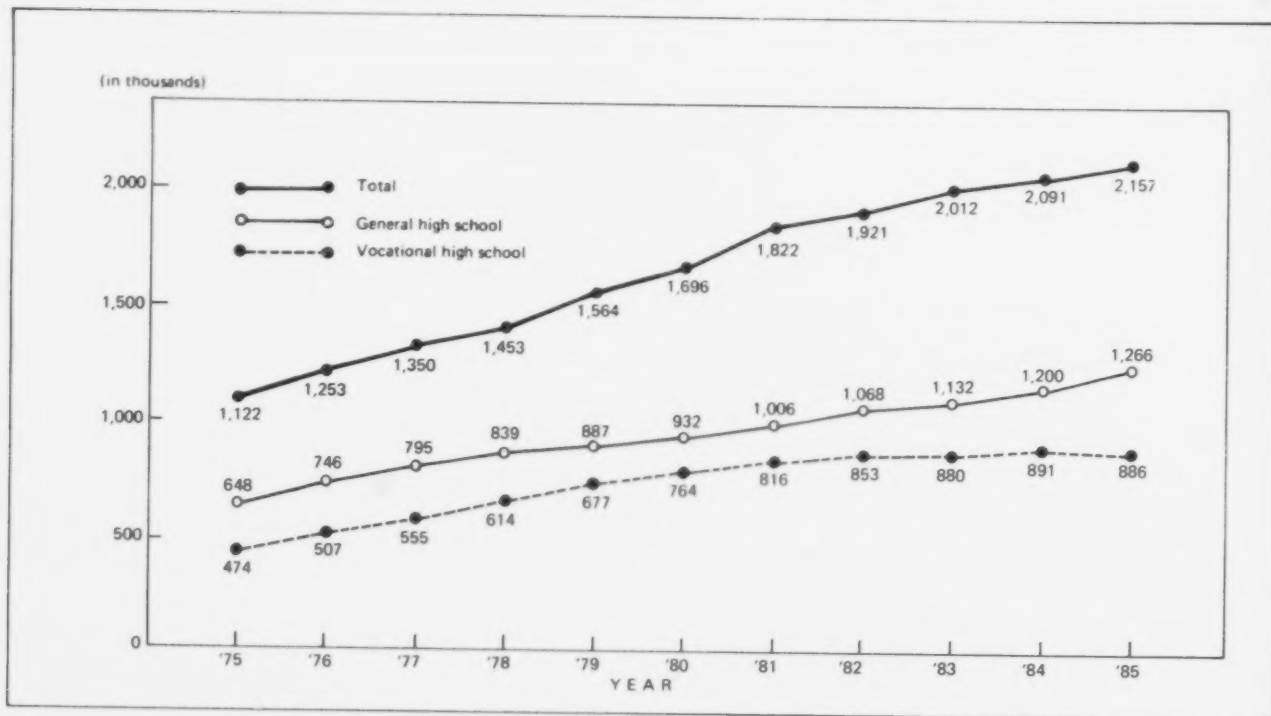
Universities are composed of at least three colleges. Both universities and colleges may have graduate schools.

The entrance examination system for colleges and universities underwent drastic changes after the 1980 Educational Reform. Until 1968, colleges and universities had been authorized to select their students on the basis of applicants' scores gained on the entrance examinations conducted by each college or university. From 1969 to 1979 high school graduates who succeeded in the Preliminary Examination for the College Entrance (PECE) were permitted to take the main examination for college entrance. The PECE was replaced by the Scholastic Achievement Examination for College Entrance (SAECE). Since 1985 universities or colleges have selected freshmen students on the basis of the composite score of the SAECE, the high school GPA, and the Essay Test administered by the qualifying institutions. The new system aims at normalizing high school education and promoting an academic atmosphere in universities and colleges.

Courses are offered in either four or six years. Except in medical colleges, colleges of oriental medicine and dental colleges, 140 academic credits will entitle a student to a bachelor's degree. Class attendance of 16 hours per term is good for one-credit unit, but in courses requiring laboratory work or on-the-job training, physical education and military training, attendance over 32 hours per term counts as one academic point.

The bachelor's degree is offered in 25 fields, namely: (i) literature; (ii) theology; (iii) fine arts; (iv) music; (v) jurisprudence; (vi) political

Table 2: TRENDS IN HIGH SCHOOL ENROLLMENT, 1975-1985



science; (vii) administrative science; (viii) education; (ix) library science; (x) economics; (xi) business administration; (xii) commerce; (xiii) physical science; (xiv) home economics; (xv) gymnastics; (xvi) engineering; (xvii) medicine; (xviii) dentistry; (xix) oriental medicine; (xx) sanitation; (xxi) nursing; (xxii) pharmacology; (xxiii) agricultural science; (xxiv) veterinary medicine; and (xxv) fishery. For each course, the curriculum is composed of general education and professional education, and these are again divided into required and elective subjects.

(b) Teachers' Colleges and Colleges of Education

Teachers' colleges are to train elementary school teachers, while colleges of education are to train middle and high school teachers. All teachers' colleges are nationally endowed. Both types of colleges offer four-year courses. To facilitate on-the-job training, colleges of education have attached elementary, middle and high schools while teachers' colleges have attached elementary schools, where the students are required to have at least four weeks on-the-job teaching. In the course of practice, a student teacher must take the internship which includes observing class instruction, teaching students in regular classes, and performing the general duties of a teacher at school.

(c) Korea National University of Education (KNUE)

The Korea National University of Education, which opened in March 1985, assumes the task of training and retraining teachers at all school levels, as well as producing educational researchers, thus providing a firm base for a national center of education.

(d) Junior Vocational Colleges

The junior vocational colleges have been reorganized from the former higher vocational schools and general junior colleges. The purpose of a junior vocational college education is to educate professional personnel required for national development.

Specifically, a junior vocational college education aims at fostering the ability to adapt to technological changes and innovations, and to foster a spirit of academic-industrial cooperation. However, it faces such problems as the general preference for four-year colleges and the rising difficulties of employment for graduates in competition with those from four-year institutions.

Courses are offered in engineering, agriculture, nursing and sanitation, fishery and marine industry, and business administration and trades. Curricula last from two to three years (three years for nursing colleges).

The Ministry of Education is currently enforcing reforms in vocational education with the aim of establishing closer links between the curricula and the requirements of industry, expanding the scope of in-service and overseas training for faculty members, securing adequate financial support, closer academic-industrial cooperation and initiating short-term special courses.

Higher education in Korea is making epochal progress due to the reforms and various promotional measures as can be seen in the following table.

Table 3: STATUS OF HIGHER EDUCATIONAL INSTITUTION, 1985

Classification	Number of Schools							Departments
	Total	By time			By sex			
		Day	Eve	Day & Eve	Men	Women	Co-edu.	
Grand total	456	230	100	126	7	51	398	7,592
National	90	55	18	17	3	4	83	2,219
Public	3	1	1	1	—	—	3	46
Private	363	174	81	108	4	47	312	5,327
Junior college	120	70	1	49	3	26	91	1,076
National	17	16	—	1	2	4	11	130
Public	—	—	—	—	—	—	—	1
Private	103	54	1	48	1	22	80	945
Teachers' college	11	1	—	10	—	—	11	381
National	11	1	—	10	—	—	11	381
Public	—	—	—	—	—	—	—	—
Private	—	—	—	—	—	—	—	—
College & Univ.	100	52	2	46	2	10	88	3,126
National	21	20	—	1	—	—	21	888
Public	1	—	—	1	—	—	1	22
Private	78	32	2	44	2	10	66	2,216
Graduate school	201	94	96	11	2	15	184	2,939
National	41	18	18	5	1	—	40	820
Public	2	1	1	—	—	—	2	23
Private	158	75	77	6	1	15	142	2,096
Miscellaneous schools	24	13	1	10	—	—	24	70
National	—	—	—	—	—	—	—	—
Public	—	—	—	—	—	—	—	—
Private	24	13	1	10	—	—	24	70

4. Teacher Education

Pre-service training is conducted at teachers' colleges, colleges of education, junior vocational colleges and in the education courses of general colleges and universities. Usually, kindergarten teachers are trained at junior vocational colleges, elementary school teachers at teachers' colleges, and secondary school teachers at colleges of education and general colleges and universities. These institutions turn out about 50,000-60,000 teachers annually. Appropriate licenses for teaching are awarded to those who graduate from the above schools.

In-service training for teachers is designed to provide higher qualification, technical knowledge and to raise the ethical standards of teachers.

Retraining programs to acquire licenses of qualification for principals, vice principals and first and second class teachers from kindergarten to high school are offered by training institutions attached to teachers' colleges, teacher training institutes attached to national universities and by the Educational Administration Institute attached to the College of Education, Seoul National University. While this training course lasts 240 hours, a shorter course of 60 hours is carried out at the respective municipal and provincial training institutes.

C. Non-Formal Education

Non-formal education means all of the organized non-credit educational activities which in Korea include occupational and technical training as well as general cultural education.

1. Occupational and Technical Training

Technical training in the field of agriculture is mainly extended to farmers and encompasses such subjects as the introduction of scientific methods into agriculture, improvement of farming skills, and expansion of revenue-creating opportunities. The training is administered by the Rural Guidance Offices under the Ministry of Agriculture and Fishery.

For vocational and technical education, there are various vocational schools for youth under the supervision of the Ministry of Education and job training centers supervised by the Ministry of Labor. Technical training in fishery and marine industry is given under the supervision of the Office of Fisheries. The aim of such training courses is both to introduce modern scientific methods and to increase the income level of the trainee. There are also women's employment centers run under the jurisdiction of the Ministry of Health and Social Affairs.

2. General Cultural Education

Educational schemes in such areas as the use of leisure hours are operated by public and private organizations for the benefit of women, youth, the aged and other social classes. Public libraries, science halls, museums, national theaters, cultural centers and other public facilities contribute to the cultural environment of the general public. Universities carry out an assortment of extramural programs concerning such subjects as child care and home economics for women, management control for businessmen, leisure activities for the elderly, etc. Newspapers, television and other news media produce diverse programs designed to promote the non-formal education of the general public.

Other organizations which carry out social and educational functions for their members and the general public include the Korean Central Association for Housewives' Development, the Korean Senior Citizens' Association, the Korea Women's Association, the Korea Mothers' Association, the Korea Boy Scout Association, the Korea Girl Scout Association, the Korean Red Cross, YMCA, YWCA, 4-H Clubs, the Korean Youth League, the Korean Alpinist League, etc.

MAJOR PROBLEMS IN KOREAN EDUCATION

Parallel with the dramatic growth in the economy has been the rapidly increasing student population. This student explosion was, and still is, a most critical problem in Korean education.

As a consequence, one of the most pressing problems in elementary education is that of classroom congestion, especially in the larger cities. Because of classroom shortages, some elementary schools are forced to operate two daily school shifts. Exacerbating the situation is the fact that many of the existing school facilities are obsolete as well as inadequate. The Government plans to split some of the large schools into smaller units, thus easing the overflow and eliminating the two shift scheduling of classes.

Secondary education is faced with a similar problem because compulsory and free middle school education is being extended. The following tables show just how swiftly enrollments in secondary schools have been multiplying.

Because of inadequate budget appropriations for solutions to such issues, an education tax was created in 1982 for the coming five-year period. The education budget for the current year 1986 takes up about 20 per cent of the national budget, of which about 63 per cent is allocated for compulsory education.

Table 4: EXPANSION OF MIDDLE SCHOOL EDUCATION, 1945-1985

Classification	1945	1960	1970	1980	1985
Number of Schools	166	1,053	1,608	2,121	2,371
Index	100	634	968	1,277	1,428
Number of Teachers	1,186	13,053	31,207	54,858	69,553
Index	100	1,100	2,631	4,625	5,865
Number of Students	80,828	528,593	1,318,808	2,471,997	2,782,173
Index	100	654	1,631	3,058	3,442

Table 5: EXPANSION OF HIGH SCHOOL EDUCATION, 1951-1985

Classification	1951	1960	1970	1980	1985
Number of Schools	307	640	889	1,353	1,602
Index	100	208	289	435	522
Number of Teachers	1,720	9,627	19,854	50,948	69,546
Index	100	559	1,154	2,962	4,043
Number of Students	40,271	273,434	590,382	1,696,792	2,152,802
Index	100	678	1,466	4,213	5,346

Table 6: EXPANSION OF HIGHER EDUCATION, 1945-1985

Classification	1945	1960	1970	1980	1985
Number of Schools	19	85	168	236	255
Index	100	450	890	1,240	1,342
Number of Teachers	1,490	3,808	10,435	20,900	33,483
Index	100	260	700	1,400	2,247
Number of Students	7,819	101,041	201,436	601,994	1,209,647
Index	100	1,290	2,586	7,700	15,471

Another result of this enormous acceleration in the secondary schools has been the swelling numbers of university aspirants with which higher education has not been able to keep pace despite the impressive efforts exemplified in the figures on Table 6.

The sharp increments of students in secondary education has brought an overheated competition for the entrance examination into higher education. While the Korean Government has already put in force educational reforms intended to cope with the entrance competition, enlarging the opportunities for higher education has yet to be found for the burgeoning secondary numbers.

The Korean Government also plans to initiate solutions to such issues as the inequalities that exist among the social classes and among the regions in opportunities for education, conditions of education and educational outcomes. One of the measures includes plans for the youth from underprivileged families to receive greater support through an expansion of vocational education programs and an increase in financial support to vocational schools. A similar need exists among working people.

Although Korean education has accomplished remarkable quantitative growth, it has yet to achieve a comparable qualitative improvement. Educational facilities, particularly science laboratories, have not been provided in sufficient numbers. To expedite the goal of attaining the highest quality education possible requires a much larger monetary investment in education. An augmented budget would allow for upgrading the quality of teaching, for acquiring more advanced scientific equipment and facilities for experimental use and for improving such educational conditions as the ratio of the number of students per teacher and per classroom, etc. Some of the qualitative growth indices projected by the Korean Government for the coming years are seen in the following tables.

THE CONCEPT OF DISTANCE EDUCATION IN KOREA

Distance education in Korea is viewed as a new educational avenue for the growing population of secondary school graduates and as part of the concept of lifelong education. Lifelong education responds to the educational needs of all citizens at any point in their lifetime.

As the standard of living improves, the adult population has increasingly sought further education as one of the means of learning to cope with the alterations they encounter in this fast-paced environment.

Table 7: STUDENTS NUMBER RATIO PER CLASS FOR IMPROVEMENT OF EDUCATIONAL CONDITIONS

Classification	Unit Number of Students				
	1983	1986	1991	1996	2001
Kindergarten	34.9	33.7	27.5	21.2	15.0
Elementary School	46.9	42.0	40.1	37.1	33.0
Middle School	63.9	60.2	42.6	40.9	37.6
High School	58.1	56.2	45.2	37.8	35.0
Special School	14.3	13.7	12.3	10.8	9.2

Table 8: STUDENTS NUMBER RATIO PER TEACHER FOR IMPROVEMENT OF EDUCATIONAL CONDITIONS

Classification	Unit Number of Students				
	1983	1986	1991	1996	2001
Kindergarten	32.2	23.0	18.0	14.9	12.0
Elementary School	41.7	36.8	35.8	33.8	30.0
Middle School	42.2	37.8	28.2	26.1	23.3
High School	31.9	30.1	23.5	19.8	18.8
Colleges	34.1	33.1	28.7	24.3	19.7
Special School	9.8	9.7	8.2	6.9	5.6

Note: Colleges include junior vocational colleges, teachers' colleges and 4-year colleges and universities.

Table 9: INDICES OF ENLARGEMENT OF EDUCATIONAL INVESTMENT

Classification	1983	1986	1991	1996	2001
GNP vs Public Educational Expenditure (%)	6.9	7.4	7.3	7.0	7.0
GNP vs Budget of Ministry of Education (%)	3.8	3.9	4.2	4.4	4.6
Parents' Defrayment/ Public Educational Expenditure (%)	45.5	43.9	37.5	30.5	25.3
Educational Expenditure/WPU(\$)	244.0	319.8	483.9	655.1	836.6

Note: WPU = Weighted Pupil Unit.

They have turned to education for a multitude of reasons. Some may come just for enrichment, others to improve their working status. Still others turn to education to fulfill a strong desire to resume an interrupted schooling.

This newly emerging adult clientele, because of work and other obligations, find further education possible only when they are allowed to study at their own time and as their situation permits. In other words, the new and developing educational needs of our society have amplified the demand for part-time higher education at the least possible cost. Distance education has been conceived as a major element of response to this demand.

At the same time, it constitutes a new, cost-effective alternative for the ascending numbers of secondary school graduates who are denied access to conventional universities because of these institutions' limited ability to expand and accommodate the students. Thus, distance education was established in Korea for a two-fold purpose: as an avenue of opportunity for higher education for the adult population and the secondary graduates.

The air and correspondence educational system was introduced in Korea to fulfill these concepts of distance education and has led to the founding of the Korea Air and Correspondence University and High Schools. It can also be said that the air and correspondence system offers higher education suitable for a new age by its ability to adapt the latest techniques of mass media to the teaching forum. Their successful ventures into teaching development have combined broadcasting and audio and videocassettes with print materials, making it readily accessible to all of its students. Thus, a substantial segment of the adult population has been encouraged by such innovative techniques to take advantage of the opportunities open to them for pursuing higher education.

The 1980 Amendment of Korean Constitution stipulates that the state is to promote lifelong education. Other constitutional clauses relating to education state that:

- (i) Every citizen has the right to enjoy an equal opportunity for education according to his ability;
- (ii) All children should receive at least a primary education and such other education as may be prescribed by law;
- (iii) Compulsory education is provided free of charge;
- (iv) The independence and political neutrality of education is guaranteed; and
- (v) Basic matters relating to the management of the educational

system including schoolroom education, lifelong education, financing of schools and the status of teachers are decided by law.

DISTANCE EDUCATION IN KOREA

There are ongoing distance education projects in Korea in the fields of both formal and non-formal education.

Much of the non-formal distance education in Korea comes through the broadcast media. Aimed usually at adults in the home, it costs nothing and demands little or no preparation by the listeners, nor is it supported by print or other media materials. The programs include all types ranging from the "how to fix it" variety to self-improvement. For the most part, they are intended to encourage greater understanding among members of the general audience.

Non-formal distance education occurs also in work-related self-improvement seminars and workshops, as can be seen in the on-the-job training program for the business community initiated in 1978 by the Korean Standards Association. In 1985, 30 courses were taught by distance education methods. For a period of six months, 2,765 people enrolled in such courses as quality control, accounting, management and computer science.

The participation by non-government agencies in the development of distance education is expected to increase. Already there are many private institutions in Korea preparing students to take such tests as the College Entrance Examination, the Test of English as a Foreign Language (TOEFL), the Graduate Record Examination (GRE) for graduate school, etc. Although regular class attendance has been the usual method of instruction, correspondence methods are being introduced. With the increasing use of VTRs, it is not unlikely that such courses will eventually be produced on videocassettes for future use.

Another source of non-formal expansion is found in the Korean education television network. Their programming includes history, various languages, mathematics and the arts. Meanwhile, commercial television has steadily increased production of programs of a documentary nature and those dedicated to coping with social change. Moreover, as the economic conditions have improved and leisure time has increased, the production of programs earmarked for the development of leisure time activities has likewise been stimulated.

However, far more significant are the distance education projects in the field of formal education. As mentioned earlier, there are two such

institutions in Korea, one is the Air and Correspondence High Schools and the other is the Korea Air and Correspondence University.

Air and Correspondence High School (ACHS): The purpose of ACHS is to provide high school education to people unable to receive education beyond middle school because of their jobs or other reasons.

In 1974, 11 ACHSs were established. In the span of 12 years, the number of schools has increased to 50 while enrollment rose from about 5,500 to about 75,000. ACHSs are attached to the existing regular high schools which provide facilities and teachers for classroom instruction.

Curriculum is basically the same as that of regular high school but a little adjustment is made for the instruction in ACHS which depends heavily on self-study and radio instruction. Students are asked to attend class only every other Sunday, enabling those with jobs to earn and learn at the same time. Besides the ACHS texts, students are given a guidebook for radio instruction and monthly self-learning materials. To obtain the ACHS diploma, students must complete 204 units of study over the three grades of the course. These units cover 14 subjects including Korean, mathematics, English, social studies, science, German, physical education, music, fine arts, national history, national ethics, military training and vocational courses.

A unit represents 50 minutes of instruction a week per semester, and the students are expected to put in 1,224 hours of study a year which are divided into self-learning (862), schooling (182) and radio instruction (180).

Radio instruction is broadcast in the early morning and the late evening. Everyday except Sunday, there is a half-hour broadcasting for each grade, covering two subjects. Students are required to take notes of what they listen to and are obliged to submit them to teachers for inspection. In addition to subject-oriented programs, there are special programs featuring counselling, motivation and recreation, which take up 10 per cent of the total programming.

The characteristics of the ACHS students are:

- (i) about 63 per cent of the ACHS freshmen are 18-25 years old; while approximately 8 per cent are more than 26 years old;
- (ii) about 75 per cent of the ACHS students have jobs; and
- (iii) about 40 per cent of the ACHS freshmen want to continue their study in college, about 50 per cent just want to finish ACHS and about 10 per cent want to raise their salary or position.

Self-learning is based on specially-written textbooks and self-learning materials. The ACHS textbooks are basically the same as those

of regular high schools in terms of content. But they are distinguished by the addition of supplementary material. Self-testing exercises, for instance, may be included at the end of each unit. Students are provided with a pamphlet once a month, which includes supplementary materials on mathematics, Korean language, English and social studies.

Classroom instruction provides the students with an opportunity for face-to-face interaction with teachers. It is through this session that the students clarify the areas of study which were not understood through self-learning and radio instruction. Students go every other Sunday for schooling.

The evaluation of student achievement is made in a variety of ways. At the end of each semester, every student has to take a written standardized test. Supplementary evaluation tools include the rating of assignments and note-taking of radio instructions. In addition there is a graduation examination, leading to the high school diploma.

ACHS education programs are operated in close coordination with the Korean Educational Development Institute (KEDI). KEDI is an independent, autonomous, and government-funded educational research and development organization established to carry out the following activities: (i) to undertake comprehensive and systematic research and development activities on educational goals, content and methodology; (ii) to assist the Government in deciding its educational policies and in effecting a long-term development of education; (iii) to produce TV and radio programs and improve the effectiveness of teaching and learning by fully tapping the potential advantages of the broadcasting media to the educational process; (iv) to publish and disseminate significant findings of educational research and render information services to those engaged in research and development activities and policy or decision-making; and (v) to promote inter-country exchange of innovative experiences in the field of education. KEDI develops and provides textbooks, radio programs, self-learning and test materials for ACHS as one of its many functions.

Thus, even though there are 50 air and correspondence high schools as separate entities, their education relies basically on the same set of radio broadcast lectures and evaluation materials prepared by the independent specialized organization.

The advantages of ACHS are:

- (i) It enables youth and adults who have jobs to continue their education;
- (ii) It helps adults who missed high school education to continue their study; and

- (iii) It enables students to continue their study at low cost. The current fee for a year is equivalent to approximately \$62, which is about one-sixth of the fee paid by regular high school students.

Korea Air and Correspondence University (KACU): The Korea Air and Correspondence University was established in 1972 as a branch of Seoul National University, offering two-year junior college courses in five departments. Nine years later, in 1981, it had grown to a five-year program leading to bachelor's degree. The next year, 1982, saw it elevated to the status of an independent national university with nine departments.

By 1984, the number of departments had grown to 13 diverse programs. This swift increase in departments and degrees offered means that the Korea Air and Correspondence University is responding to a felt need in Korean society.

The primary purposes of the University are:

- (i) to raise the general education level of the people by providing opportunities of higher education for those high school graduates who, for various reasons, cannot pursue a conventional college education;
- (ii) to improve the academic and professional qualities of people engaged in the professional fields covered by the major areas of study; and
- (iii) to aim at making a major contribution to the national welfare through higher education.

The University first opened its doors to 12,000 students. By 1981 enrollment had grown to 48,000 and just one year later, when KACU became independent, enrollment shot up to 90,000. Now in 1986, the number stands at approximately 150,000 or 10 per cent of all university students in Korea. The most drastic change in enrollment seems to have occurred as a result of the initiation of its five-year degree program.

In spite of the enormous rise in enrollment, all applicants could not be admitted. The University sets admission quotas according to its capacity, and applicants have always far exceeded the quota. As revealed by Table 10 almost three applicants had to be rejected each year for every one student admitted.

Courses in the areas of high demand begin with public administration which is followed by business administration, agriculture, home economics, computer science, elementary education, law, economics, language courses (which include Korean, English, Chinese and French) and early childhood education, a junior college course.

Table 10: ADMISSION QUOTA AND APPLICANTS

Year	Admission Quota A	Applicants B	A/B Per Cent
1972	12,000	55,206	4.6
1974	12,000	17,056	1.4
1976	12,000	45,148	3.7
1978	16,000	51,162	3.2
1980	18,000	62,460	3.5
1981	30,000	100,064	3.3
1982	26,000	68,988	2.7
1983	31,000	70,526	2.3
1984	33,000	77,954	2.4
1985	34,000	81,829	2.4
1986	34,000	92,200	2.7

KACU has produced 57,691 graduates from both its junior college and five-year courses. Of that number, 21,333 have received their bachelor degrees since 1985, when the first graduation from five-year courses occurred. It is difficult to assess the graduates' employability since most of them are already in the work force. In fact, a look at the statistical breakdown of the students shows that nearly 80 per cent of them already have jobs, indicating on-the-job improvement as well as upward mobility in some cases. Of this number, 20 per cent are employed by business firms, 20 per cent are teachers, 20 per cent are government officials and 5 per cent belong to the military. Housewives and those in other categories occupy 25 per cent of the total students. With regard to the age range of the students 37 per cent of them are under 25 years of age. Another 32 per cent are between 26 and 30, while a very sizable 24 per cent are 31 to 40 years of age. The final 7 per cent belongs to those over 41.

The central organization that handles all of these names and numbers is divided into three groups. The first, the educational division, is made up of 13 departments as was previously mentioned. The second is academic and student affairs, while the third is the division of general affairs which performs such functions as accounting, procurement and repair and maintenance of facilities. At KACU there are also several affiliated institutions such as the Student Guidance Center, the Institute of Distance Education, the Computer Processing Center, the Media Development Center, the Library, the University Press and the KACU Publishing Unit. In addition, the University is assisted by the management committee which functions in an advisory capacity over university policy-making. It is their responsibility to advise the president on such

matters as long-term development projects, as well as on administrative and academic affairs.

The Student Guidance Center is an important organization helping students resolve some of the difficulties inherent in their unique style of learning.

The Institute of Distance Education is mainly concerned with the research for developing curriculum and media. Through academic exchange and cooperation, the institute gathers and analyzes information necessary for improving the educational programs of the Korea Air and Correspondence University, and advise the president on them.

The Library started with its audio section in 1972. Since then it has been functioning as a multipurpose university library. The library stocks the regular radio-lecture recordings. Reproductions of the lectures are available on cassette tapes for in-library use.

The Computer Processing Center enables the University to process the vast numbers of students. The data processing room has been equipped with both the large general purpose computers and microcomputers. In them are stored the records of matriculation, grades and graduation.

The Educational Media Development Center, operating through the radio and television studios on the university campus, is responsible for the development and production of the audio and videocassette tapes for educational use, which are so vital to the educational system. This rapidly changing field demands constant attention in order to stay abreast of its latest developments.

KACU also publishes a *newspaper* more than 40 times a year to provide students with detailed descriptions of the broadcast lectures, information on the various disciplines and from time to time a column for special lectures, study guides and information pertinent to university life. Because the paper reaches all of the students by mail regardless of locality, it has established and maintains stable lines of communication among all the members of the KACU community.

The Publishing Unit also has the task of publishing and distributing all of the necessary textbooks and supplemental reading materials, and takes advantage of the economies of scale resulting from the consolidated operation for so large a population of students. These books are authored by professors from KACU, Seoul National University and other cooperating universities.

The educational system of KACU works from matriculation to graduation as follows. Admission is limited to high school graduates or to those who have passed the high school equivalency examination. They are selected on the basis of their high school academic standing within the overall admission quota set by the university with the exception that some of the admission quota is reserved for government officers recommended by the heads of governmental agencies.

Due to the high dropout rate in the early stage, students are newly admitted to the second and third year classes. Students who have completed the minimum of two years at a junior college elsewhere are eligible to the relevant courses of second or third year on the basis of their academic records.

Students register for 15 credits a semester, three credits per subject. The entire process of teaching and learning is the result of a variety of activities that include assignments and self-study, radio and television lectures, attendance at schoolings and the newspaper.

Ordinarily, the lectures are conducted by the authors of the textbooks. The lectures are broadcast over the educational radio network of the Korea National Broadcasting Station (KNBS) at various times throughout the day: five to seven in the morning, four to five in the afternoon, six to eight in the early evening and eleven in the evening to one in the morning for a total of seven hours. TV lectures are broadcast for one hour a week. Broadcast lectures for one subject consist of 20 units, 1 unit lasting 30 minutes. Students unable to listen to the broadcasts can visit the library of the local study center where copies of the audio and videotapes are available.

At the end of each semester, students are required to attend the summer and winter schooling. Schoolings are held at 50 cooperating universities and colleges in the region, for a total of five days. During this period the professors hold classes to review materials from the broadcast lectures, to provide laboratory work and to give students advice for self-study. Face-to-face meetings between students and professors are increased through special lectures and lecture tours. In summary, the media employed in teaching the courses are:

- (i) written materials – correspondence texts, supplementary materials and the university newspaper;
- (ii) audiovisual materials – radio and television broadcasts, audio and videocassettes;
- (iii) schoolings – compulsory lecture and practical sessions held at cooperating institutions; and
- (iv) special lectures.

Students are required to submit several reports on assigned subjects and readings every semester. These reports are sent to the teaching staff for correction and comment. They are returned to the students for self-study and review. The results of these assignments are used for evaluation of the students' overall academic performance. Their academic work is also evaluated by means of two examinations, as well as the written assignments. The first examination is an objective test covering the broadcast lectures administered directly by KACU. The second examination is subjective and is conducted and evaluated by the

professors of the cooperating institutions where the schooling has taken place.

National universities in each province are designated by the Ministry of Education as the cooperating institutions of KACU, while private universities are negotiated to fulfill the same role. A total of 50 cooperating institutions are the centers for the summer and winter schooling and examinations.

The University has 12 regional study centers. In addition, there are also 22 local study centers in smaller cities and districts. In the regional centers, professors of KACU and the cooperating institutions, assistants and administrative clerks are there to help students by offering counselling and general guidance and for extra-curricular activities. The regional and local centers are also the cohesive force for the students keeping them in touch with each other, which is so important to students who are isolated and studying under far more trying circumstances than students of conventional universities.

Bachelor degrees are awarded to students who successfully complete the course work of 140 or more credits and pass the qualifying examination for graduation. To those students completing the junior college course with 80 or more credit points, a diploma is presented.

Turning now to the financial side of the operation, KACU spent the equivalent of approximately \$17 million in 1985 for its total operation. About 14 per cent of the expense was for broadcasting lectures and about 12 per cent was for cooperating institutions. Approximately 32 per cent of the KACU's total budget is subsidized by the Government, the rest being made up through student fees. The total cost of education per student at KACU in 1985 was about \$125, which is roughly one-tenth of the average cost per student at the nation's conventional universities, demonstrating that distance teaching at KACU has been significantly cost-effective. The most important factor making the system cost-effective is the close collaboration between KACU and its cooperating institutions which provides the university with the dominant part of the required professors and classrooms. The importance of this relationship cannot be emphasized too strongly. Were KACU to try to maintain the buildings and faculty necessary for the schoolings on an annual basis, educational costs would inflate enormously, putting them on par with conventional schools. The centralized, mass production of standardized learning materials such as textbooks and audio and videocassettes for a large student population also contributes to the further reduction of the education cost, thus benefiting from the economies of scale.

Organization Model of Distance Education: It is perhaps interesting to note that two different organizational models of distance education have developed in Korea. One has only to compare the structure of the air and correspondence high schools with that of the Korea Air and Correspondence University described in this Study to see that, though there are similarities, the two are not the same.

Any regular high school can establish air and correspondence courses and they will be attached to its regular operation, subject to the approval of the pertinent regional board of education. This system has brought forth 50 such air and correspondence high schools thus far in Korea. They are separated and distinct entities, but their education relies basically on the same set of radio broadcast lectures and evaluation materials prepared by an independent, specialized organization, the Korea Educational Development Institute (KEDI).

On the other hand, the Korea Air and Correspondence University is one complete entity where school administration and academic affairs are managed by a single staff under its own roof. The collaboration with the cooperating institutions is on an ad hoc contractual basis.

In the case of KACU, it began much like the air and correspondence high schools, attached to a parent organization, Seoul National University. Then, as enrollment grew to such proportions that distance education could no longer remain within the facilities of Seoul National University, they had to separate. Thus the Korea Air and Correspondence University was established as an independent distance teaching institution, no longer attached to any existing conventional universities.

Perhaps the fact that the authority for approving the establishment of high schools is delegated to the individual regional boards of education rather than approved by the Ministry of Education in the central government as is the case for universities, may have influenced the variation in organization. Regardless of cause, the evolution of these two concurrent but diverse models of distance education, each one functioning well in Korea, leads to the conclusion that no one single mode can claim superiority over the other. Perhaps what can be said is that circumstance and chance will dictate the appropriate model.

AN IN-DEPTH STUDY OF DISTANCE EDUCATION IN KOREA

This section is centered on the Korea Air and Correspondence University because its strengths and weaknesses are representative of

the present state of distance education in Korea. Having covered earlier the details about Korean distance education, this portion of the Study will focus primarily on the issues that may also be challenging other distance education institutions.

A. Students and Courses

Since attaining its degree granting status in 1981, KACU's growth has been remarkable. In addition to the meteoric rise in enrollment, the University has grown academically. The original five departments (public administration, business administration, elementary education, agriculture and domestic science) have grown now to 13 departments.

As other departments complete their course profiles, there should presumably be a reduction in the volume of course development. The record already proves that additional courses of study will surely boost the enrollment figures. But the continued admittance of these increasing numbers will certainly necessitate increased staffing. Already there is serious concern about the workload of the staff in most sections of the University. On the other hand, any major reduction in student intake will have important financial consequences, since KACU relies on student fees for over half of its budget. Nevertheless, there would appear to be a strong case for some slowing down of growth both in student numbers and in the course presentation rate. Such a slowdown would allow for a period of consolidation to ease the pressure currently being experienced in many parts of the system.

B. Media Production: Printed Materials

As in most distance teaching universities, the primary medium of instruction at the Korea Air and Correspondence University is printed material. Some of the correspondence textbooks are developed by the professors at KACU, but much is produced by external staff from Seoul National University and other cooperating institutions. This is not surprising given the relatively small academic staff at KACU — about 70 professors and 40 teaching assistants.

This method of producing texts is undoubtedly more economical than one in which most of the material is written by full-time internal academics. A heavy reliance on external authors, however, often produces its own set of difficulties in communication. Moreover, the final product is frequently insufficiently geared to the needs of distance learners. In some cases, many of the features of good self-instructional material are included — for instance, course and chapter objectives,

summaries, examples, self-assessment questions, glossaries, concept lists, etc. But in too many cases these features are lacking. Furthermore, the problem of transforming the contributions of outside writers into distance teaching texts raises the difficult issue of getting agreement from the authors to allow changes to be made in their material.

A prior contractual agreement on changes is worth considering, as well as a fuller briefing on the needs and expectations for external contributors. It is also crucial that at least one member of the full-time staff has the responsibility and the time for coordinating the activities on each course, and for working on the final drafts. This coordinating task should include actual meetings of all who are committed so that the production of the course materials becomes a more cooperative exercise than currently seems to be the case.

It has become increasingly clear that while many of the full-time staff are familiar with what are normally regarded as the characteristics of effective self-study methods, others have less knowledge and experience with the techniques involved. Therefore, a policy to hold more staff development meetings for those full-time members who are less familiar with the process of devising self-instructional material should be adopted. Moreover, the appointment of an educational technologist to coordinate these policies should be of high priority.

Finally, a system for monitoring the teaching quality of the texts before and during the course presentation needs to be developed and implemented. Such a system should be mandatory whenever a new course or text is being used for the first time.

C. Audio and Video Materials

At present, KBS grants the University seven hours of radio broadcast time each day and one hour of television per week. All of the broadcasts must be produced by KBS. In much of the audio and video materials, a lecture format is adopted. Given the expense involved, particularly for TV, the full potential of the media is not being exploited. Perhaps even a smaller number of programs per course with a greater variety of styles – drama, interview, case studies, experiments, etc. – would be educationally more effective.

One of the current impediments to improved educational media is a lack of educational specialists at KBS. The producers are anxious to expedite their educational production as quickly as possible. It is not in their interest to introduce costly or time-consuming methods. Nevertheless, it may be in the best interest of the University to seek greater independence from professional broadcasting in order to facilitate the

development of programming designed and tailored to the needs of distance education with the help of educational specialists.

Copies of all audio and video materials are mass produced and distributed to the Regional Study Centers for use by students who were unable to hear or view the original programs. The Educational Media Development Center plans and produces the audio and videocassettes used to augment the course work, not for broadcast. The extensive use now being made of cassettes enhances the opportunities for effective teaching better than the more ephemeral broadcasts allows. The audiovisual input to course, however, varies considerably from course to course. Moreover, the various components included in particular courses can vary from semester to semester. Greater consistency can be achieved through planned consultations with the education specialist and tighter screening of the finished product.

D. Broadcasting Lectures

The air time made available to the University by KBS is limited to the early morning, early evening and late night, times which are not always convenient to the students. Although the increased use of cassettes has helped to fill the void, there is no substitute for broadcasts during the hours when students are fresh and their mental capacities are at their peak. The broadcasts serve another important function to which KACU is also dedicated, that of public service and social education. They are available without cost to anyone willing to take the time to turn them on and listen.

The Korea Air and Correspondence University not only needs more broadcast hours, but needs to be able to control its own broadcast scheduling for maximum efficiency and effectiveness. An exclusive educational broadcast channel for the University could be a goal for the future.

E. Schooling

At the end of each semester, students attend a five-day schooling (two days of assessment and three days of teaching) on many of their courses. The schooling is held at 50 cooperating institutions during their vacation periods, as well as at the Regional Study Centers and the main campus. A recent study showed that difficulty in obtaining permission to attend these sessions was one of the major factors affecting dropout. The recent University decision to offer an alternative mid-term evening and weekend schooling should reduce the seriousness of this problem.

The timing of schooling during a student's academic career should also be reviewed for the possibility of placing greater emphasis on a "front-end" model which places the majority of schooling on the first and second year course, since dropout is most likely to occur in the earlier years of study before students have developed the skills of independent learning.

F. Assessment

The current assessment system is as follows:

<u>Method</u>	<u>Ratio</u>
Subjects with schooling	
(a) first part examination (an objective test)	70%
(b) second part examination (a subjective test)	30%
Subjects without schooling	
(a) first part examination (an objective test)	70%
(b) written assignments	30%

As can be seen, it relies heavily on objective testing, and with the intended introduction of computerized marking, this emphasis is likely to increase. Of course, objective-type questions can be devised which assess higher cognitive skills, though in some subject areas it can prove difficult to produce "good" questions in large numbers, semester after semester. Moreover, they have the advantage in that grading is highly reliable. However, when the objectives of a course require students to be able, for example, to develop and organize ideas, objective-type questions may not be as valid a test as the more traditional essay type. This raises the issue of whether there is an educational justification for using the objective method with such a heavy weighting across all subject areas. However, an increase in the essay-type components for some subjects would obviously increase the already heavy burden of grading and/or increase costs through the employment of yet more staff from cooperating universities, and therefore might be considered unrealistic.

G. Regional Study Centers

The regional study centers are staffed by a director, a teaching assistant, an administrator and two librarians plus ancillary staff. A trained counsellor and more academic staff would be very valuable in dealing with the large number of student queries. Most desirable, of course, would be to have a level of support high enough to assign students individually to members of the tutorial and counselling force. But it would be costly and require a substantially larger budget. A reasonable compromise might be to appoint professors representing each of the 13 departments to all of the regional study centers to help students at the regional level.

H. Dropouts

As with most distance education universities, a relatively high dropout rate is a source of constant concern. Approximately 50 per cent of the first year students drop out of the university before they reach their second year, while second year students show the next highest percentage.

A recent survey of KACU students highlighted "maladjustment in self-learning methods" as one of the major negative factors. The production of study skill packages related to each department's courses might considerably alleviate this particular factor. Timing more of the schooling to the front-end model (first and second year), when students tend to be less secure, is another measure likely to reduce the number of dropouts.

The previously mentioned problem of obtaining permission from employers to attend the daytime schooling sessions is already being dealt with via the weekend and evening schooling. As yet, it is too soon to know the definitive effects this action might have.

Many working students find the workload involved in the five or six required courses taken each semester more than they can handle and therefore feel forced to give up. The possibility of allowing students to opt for fewer courses per semester in order to reduce this problem needs to be explored even though increased flexibility in student choice might complicate the system as it now operates.

I. Cooperating Institutions

The Korea Air and Correspondence University owes much of its cost-effectiveness to the tremendous contribution of the cooperating

institutions. Were KACU to maintain on a year-round basis the building and faculty necessary to carry on the schooling program, the expense of distance education might nearly equal that of conventional education.

Nevertheless, the cooperating faculty are not members of the KACU family, a fact that inevitably limits their eagerness and devotion, and this feeling cannot help but be transmitted to KACU students at least in a subconscious way. Their inclination is understandably first to the conventional educational method. The University plans to hold seminars at each of the cooperating institutions aimed at heightening the enthusiasm of the part-time professors by better orienting them to the distinctly different style of distance teaching and the problems inherent therein. The seminars should stem the tendency to teach and write for distance education as they do for their conventional classes and encourage greater care in adapting their materials and methods to the special needs of KACU students.

J. Written Assignments

In the past, students have been required to submit an assignment written at home to be turned in for grading and written comment by the professor. In order to offset the temptation of some students to plagiarize the work of others, the writing of the report takes place on the first day of schooling under staff supervision.

K. Student Quality

Like other distance teaching universities around the world, KACU is determined never to become a mere para-educational institution of inferior quality to regular universities. Analysis discloses that despite the number or length of interruptions in education, the general ability of KACU students is definitely not inferior to that of other university students.

Encouraged by that fact, the University has steadfastly tried to maintain strict academic standards. It is claimed that the high dropout rate may in part reflect these stringent efforts. This contention is perhaps evidenced by the quality of KACU graduates, many of whom are admitted to the graduate schools of conventional universities in competition with their own graduates. Moreover, the success of other KACU students is also remarkable in passing the various qualifying examinations necessary for such professions as law, accounting, home economics, kindergarten supervisors, etc.

L. Experimental and Practical Work

For those courses requiring experimental and practical work like computer science, agriculture and home economics, the University tries to provide them during the schooling period. Soon, students themselves will be furnished with experiment kits, designed to insure hands-on training as well.

Nevertheless, the amount of experimental and practical work required in some of the technical fields is simply more than can be accomplished either in the schooling hours or by the experiment kits. However good the teaching efforts may be, the barriers to technological training by distance teaching methodologies can hardly be surmounted. The judgment in Korea that distance teaching falls short of producing well-qualified engineers and other technologists has introduced a new mode of lifelong education in the area of technical education.

In March 1982, the Korean Government founded the Kyonggi Open University as a school of engineering. Since then, six other similar schools have opened throughout the country. These open universities in Korea are not distance educational institutions as many open universities are. Rather, they follow the same teaching methods of conventional universities which necessitates attendance throughout the semester. The openness is found in the lack of age restriction and in the flexibility students have in choosing to attend day or evening classes as their schedule permits, in choosing the number of credits per semester and in the unlimited time they have to complete their education. Those who complete the bachelor program successfully and pass the graduation examination are awarded the degree of a bachelor of engineering in the fields of mechanical engineering, mechanical design, civil engineering, architectural engineering, electrical engineering, electronic engineering, chemical engineering, computer science, environmental engineering, die and mold design, industrial safety engineering and industrial engineering. Thus the open universities in Korea are more likely to ensure sufficient experimental and practical work experience for the technological courses of lifelong education.

GENERAL PROBLEMS AND ISSUES RELATED TO VARIOUS ASPECTS OF DISTANCE EDUCATION

From the preceding examination of the problems and issues challenging Korea Air and Correspondence University, certain aspects emerge that appear to be relevant to distance education in general, though perhaps not in this order.

A. Classrooms and Teachers

Obtaining the necessary classrooms and quality teachers at the lowest possible cost is of prime importance. Moreover, the problem is likely to grow rather than decrease as massive numbers of people throughout the world seek education through distance teaching institutions.

B. Technical Courses

The increasing demand for a technically-trained work force exceeds the resources of conventional institutions, thus intensifying the need for distance-taught technological courses. As they are now designed, the amount of experimental work offered is insufficient and presses for improvement.

C. Interaction

The goal of education is not confined to the mere acquisition of knowledge. The necessary socialization that comes from classroom interaction is perhaps one of the most difficult objectives for distance education to achieve. Yet, the importance of developing this interaction must not be underestimated. Although the recognition of this shortcoming has been largely from the point of view of the student, its effects are just as harmful to the professors. Just as students of distance education must learn essentially in isolation, so also the professors cannot help but prepare and teach their lessons in isolation. The stimulation resulting from interaction are indispensable for faculty as well as students.

D. Team Efforts

As the need for more and improved media production grows, the faculty is being called upon to work cooperatively as a team with other staff members that may include such diverse groups as engineers, camera crew, artists and producers. All too often disagreements have a divisive effect, resulting in frayed nerves and damaged pride, and ultimately, a flawed production. The team effort required for the production of good media material might be likened to that of a symphony orchestra.

E. Tutoring

Perhaps the ideal situation might be to have enough tutorial staff to assign students in small groups to an individual tutor whom they could call on for help and special counseling when they need it. Such a system would also encourage the development of the group rapport with classmates that is otherwise missing from distance education. But the staggering price tag attached to such an ideal would obliterate the cost-effectiveness that makes distance education so attractive. Still the need for more and better tutor-counseling or its alternatives continues.

F. Dropouts

Although the causes may vary, high dropout rates are a recognized problem of distance education the world over. However, without appearing to justify dropout, it may actually serve an important function as a self-monitoring system. Many students enroll for whom higher education in any form is too difficult or not rewarding. It is better for them to discover the realities in the anonymity of a distance education course, than in a conventional classroom confrontation with their peers. There are, of course, other reasons for dropping out that can and must be dealt with, such as the flexible schooling adjustment recently adopted by KACU.

CONCLUSION, SUMMARY AND SUGGESTIONS

In the last quarter of the century, the world has observed a remarkable metamorphosis in Korea's socioeconomic development from a largely agrarian society, small and bequeathed with few natural resources, into an industrialized modern society. This development has brought with it profound changes in her societal structure.

Hand in hand with the economic progress have come the educational advances. Through increased investments in Korea's human resources, a well-spring has been tapped that promises enduring gains in all areas of human development, technical, cultural, economic and infinitum. The people's intense desire for education and personal improvement is widely recognized by the Government as perhaps Korea's greatest strength. To this end, education plays a prime role in her continuing growth.

A brief scan of the development of education in Korea discloses a system that has significantly expanded on all levels. Notwithstanding,

some major issues still exist. One of the overriding problems at the elementary and secondary levels is that of classroom shortages, either from overcrowding or from obsolete and inadequate facilities. At the level of higher education, students clamor for admittance and space. The sweeping reforms of 1980 revised the entrance examination system and did much to normalize education. Steps to close the gaps between curricula and the needs of industry, between the social classes and opportunities for higher education, and to bring the qualitative level of education at par with the quantitative level are currently in progress.

Distance education was one of the provisions introduced to provide the increasing secondary graduates with a new avenue of higher education and to fulfill the promise of lifelong education by widening the chances for the emerging adult population to obtain higher education. The two distance education enterprises in Korea are the Air and Correspondence High School and the Korea Air and Correspondence University. As indicated by their titles, education is heavily dependent upon broadcast and other forms of educational media as its main source of instruction.

Although the aims and methods of these two schools may be similar, at the organizational level they are not the same. The high schools are actually a division of the regional schools, whereas the University, complete and of itself, operates through a series of adjunct departments built into the system. The University is also making use of regional facilities and instructors, but on an ad hoc contractual basis, not as an attached division of the regional institutions. Whether by contract or attachment, administrative strategy is credited with being the major cost-cutting factor in air and correspondence teaching.

The Korea Air and Correspondence University makes constant adjustments in order to meet the needs of the University and its student body. For instance, because KBS air time is painfully brief, the media center was cultivated to recapture the lectures for replay and storage, among other things. To fulfill the need of students for a place to study and to meet, the regional centers were given priority. To satisfy the need for personal contact between professors and students, the schooling was created.

The University continues its efforts for inventing solutions to fit the perceived needs of the moment. Such issues as inherent alienation, dropout, airtime and refining the educational media are currently being confronted. Some of these questions in need of answers will now be reviewed and some suggestions will be made in the hope that if some of the problems are common to distance teaching in general, an open discussion of strategies might elicit greater insight and more workable solutions for us all.

A. Cost Reduction

A reduction of cost in distance education is accomplished through the cooperation of existing conventional teaching institutions for the schooling and through the economies of scale, in the use of media and in the production of instructional materials for mass clientele.

Obtaining the cooperation of existing conventional teaching institutions for the schooling may follow one of several different patterns depending on the circumstances. If the country is not large in area and of one language, then the KACU model is appropriate. In other words, distance teaching institutions may be organized as a single entity, making use of the conventional schools in the needed regions on an ad hoc contractual basis. Other circumstances may suggest following a plan closer to the air and correspondence high schools in which distance teaching is attached and becomes a division of a conventional regional school. In any case, it must be emphasized that securing the cooperation of the conventional institutions is one of the surest ways of making distance teaching cost-effective.

B. Experiment for Technical Courses

The quality of education by distance teaching methods is naturally a matter of great concern. Undoubtedly, the development of new and better media and its extended use is making considerable improvements in distance education possible. Nevertheless, some areas of learning exist where distance teaching has great difficulty in being effective. Technological education is one of them. It is a field in which certain levels of experiment and practical work are essential. Although the schooling period at KACU has already been designated for the purpose of experiment and practical work, ways of dilating the work experience must still be sought.

One of the innovative ideas that appears worthy of development in this connection is the notion of a Mobile Experiment Unit. The mobile unit would consist of a large-sized bus designed to be fully equipped with experimental facilities, for each of those courses that require them. With trained personnel aboard, the mobile unit would make the rounds of the regional centers each semester staying perhaps a week or two in each place in order to accommodate the students' practical work.

Since science is a universal language and the need for more technical courses a common one in developing countries, international agencies may find designing and distributing such a unit worthy of

undertaking. In the same vein with the scientific mobile unit would be the production of educational science kits for a variety of courses supplied with an explanatory workbook translated into as many languages as there was demand.

The cost of such materials could be considerably reduced if manufactured by one international agency benefiting from the economies of scale. At the same time, they could afford to employ the best minds available. Thus, a high quality product would be made available at low cost, contributing to the improvement of distance education in the technical field.

It is also worth noting in this context that another mode of lifelong education was introduced in Korea, the open university. The system of open universities operating in Korea does not follow the mode of distance teaching, although the name may mislead people. The possible misunderstanding stems from the fact that in some countries like the United Kingdom, the term "open" is synonymous with distance teaching. In Korea, however, open universities are the same as conventional universities as far as teaching methods are concerned. The difference is in the flexibility students have in choosing to attend day or evening classes, in choosing the number of credit per semester and in the unlimited time they have to complete their education. Students attend school as their situation allow. In short, the open universities in Korea provide working people with the professional technological education.

As the size of the economy continues to grow and technology-intensive industries proliferate, the base of supply sources for a highly skilled vocational manpower must be expanded. It is therefore incumbent upon all concerned to continue the search for the improved ways for technical training in distance education.

C. Whole Man Education

Distance education may not be inferior to conventional education in infusing learners with knowledge, but it definitely falls far short in the realm of cultivating a well-rounded personality which is essential for the education of the whole man, an education not only for specific knowledge but also for high ethical and moral standards.

Character building in schools is possible mainly through direct interaction between teachers and students and among the students themselves. This shortcoming of distance teaching must never be forgotten, and every means must be tapped to minimize its deleterious effects by using all of the interactive components of distance teaching. While

the period of the schooling should be extended to the greatest extent possible, the interactive elements are perhaps closer at hand through the use of newly-developed electronic media.

One bit of sophisticated technology representing a giant step in that direction is already nearer than most people realize. The talk-through screen used in telecommunication newscasts to hold a video conference is currently a means of holding long distance conferences in the business world. Although the prospect of appointing professors to the regional centers for each of the courses is a future goal, interaction with students could be augmented enormously by setting up the video conference apparatus between the main campus and the regional centers. Once in place, such a setup would allow face-to-face teleconferences between students gathered at the regional centers and professors on the main campus making it possible for students to respond with on-the-spot questions to lectures and receive instant feedback, interacting as if they are all in a single classroom together. Since the essence of humanity is interdependence, this quality should be injected into the distance learning process whenever and wherever possible.

International agencies could play an important role in furthering the cause of distance education by making such technology, as well as other worthwhile enterprises, available through financial assistance. For instance, the use of satellites for distance education is another estimable endeavor, particularly for those countries with a large landmass. For Korea, however, where the landmass is small and the actual coverage is not a problem, the contribution of satellite technology might be negligible. Therefore, it seems safe to assume that the priority areas for development may vary according to the individual circumstances of each nation.

D. Educational Media Production

Distance education is bound to become more dependent on the media rather than less. The production of all educational media materials must be planned and operated on a team basis for maximum effectiveness. This means that personal pride is often subordinated for the good of the project. The team may consist of a teacher, an engineer, a producer, a communicator and other relevant specialists.

That this well-recognized theory has yet to be put into practice can be attributed to several reasons. Most critical may be the lack of well-trained specialists. But surely high on this list must be that the production of the educational media materials is controlled by an outside, disinterested organization, namely the Korea National Broadcasting System (KBS).

Distance education in Korea has thus far achieved impressive quantitative growth. That growth must now be matched by an equally impressive qualitative rise through better use of the mass media.

Modern distance education is an innovative way of providing higher education. In order to keep up with its own reputation, its educators must continue to let innovation be the order of the day. They must stay alert to change and be flexible and daring enough to try new notions.

Appendix

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EDUCATIONAL STATISTICS (1985)

1. Population

	All Age Groups	9-10 yrs	11-19 yrs	20-24 yrs	25-44 yrs	45 yrs & above
Total	40,466,577	6,794,692	8,861,083	4,239,729	11,875,392	8,994,681
Male	20,280,857	3,463,963	4,576,199	2,186,373	6,028,785	4,025,537
Female	20,185,720	3,330,792	4,284,884	2,052,756	5,849,007	4,969,144
Rural	14,008,407					
Urban	26,458,170					

Source: National Bureau of Statistics, Economic Planning Board, Republic of Korea.

Source of all of the following educational statistics: Ministry of Education, *Statistical Yearbook of Education*, 1985.

2. Primary Schools

	Number	Classes	Enrollment		Teachers
			Boys	Girls	
Total	6,519	108,753	2,499,724	2,357,028	126,785
Rural	5,738	74,663	1,513,226	1,450,762	88,868
Urban	781	34,090	986,498	906,266	37,917

3. Secondary Schools (Middle Schools)

	Number	Classes	Enrollment		
			Boys	Girls	
Total	2,371	45,024	1,439,842	1,342,331	69,553
Rural	1,854	28,365	863,856	830,083	44,212
Urban	517	16,664	575,986	512,248	25,341

4. Secondary Schools (General High School)

	Number	Classes	Enrollment		Teachers
			Boys	Girls	
Total	1,602	35,842	1,160,571	992,231	69,546
Rural	1,208	22,994	641,584	668,583	43,541
Urban	394	12,848	518,987	323,648	26,005

5. Technical/Vocational Training High Schools

	Number	Enrollment		Teachers
		Boys	Girls	
Agricultural	61	46,812	5,030	—
Technical	102	196,908	1,446	—
Commercial	227	98,085	282,182	—
Fishery & Marine	9	3,485	67	—
Others	32	7,870	33,940	—

6. Junior Colleges

	Number	Enrollment		Total
		Boys	Girls	
Total	120	154,991	87,123	242,114
Rural	76	90,980	47,604	138,584
Urban	14	64,011	39,519	103,530

7. Colleges and Universities

	Number	Enrollment		Total
		Boys	Girls	
Total	111	681,796	250,088	950,058
Rural	47	331,228	98,984	430,212
Urban	64	355,495	164,351	519,846

8. Departments at Junior College

	Number	Enrollment	
		Boys	Girls
Humanities	30	2,685	2,114
Social Science	218	28,710	15,454
Natural Sciences	63	1,311	9,615
Engineering	354	88,223	9,576
Agriculture	90	10,518	1,886
Fishery and Marine	27	6,768	136
Arts & Physical Educ.	115	7,569	11,137
Medical Science & Pharmacy	124	9,200	22,774
Elementary Education	55	7	14,431
Total	1,076	154,991	87,123

9. Departments at Colleges and Universities

	Number	Enrollment	
		Boys	Girls
Humanities	543	86,108	64,033
Social Sciences	634	221,249	36,489
Natural Science	409	50,346	38,626
Engineering	476	194,116	5,487
Agriculture	187	35,709	5,426
Fishery & Marine	21	5,928	249
Medical Science & Pharmacy	129	26,474	12,934
Arts & Physical Education	282	20,207	32,970
Elementary Education	11	4,497	13,247
Secondary Education	445	40,916	53,886
Total	3,137	686,723	263,335

Distance Education in Thailand

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BACKGROUND

Location: Thailand is situated in the center of Southeast Asia, bordered by Burma in the west and north, Laos in the north and northeast, Kampuchea in the east and Malaysia in the south.

Size: A fraction smaller than France, Thailand covers a land area of 513,115 sq km. Approximately 45 per cent of this land is under cultivation, with the rest remaining forest and savanna.

Climate: The country has a tropical climate with a high degree of humidity. The average temperature is 28.9°C.

Population: Thailand's total population in 1986 was estimated at 52 million, growing at the rate of 1.5 per cent. About 85 per cent of the people live in rural areas, with the remaining 15 per cent clustered mainly in Bangkok, the center of social, commercial and political life. The majority of the labor force is engaged in agriculture, forestry and fishing. About 45 per cent of the labor force consists of women.

Religion: Buddhism has long been the religion of the majority of the Thai people. Buddhism permeates the arts, literature, education and the Thai way of life, especially in areas where the majority of the residents embrace the Buddhist faith. About 4.60 per cent of the population are Muslim, while less than 0.90 per cent are Christians. According to the constitution and in practice H.M. the King is upholder and supporter of all religions, that is, all religions professed by the Thai people. Most of the Muslims are in the south. There are over 200 Muslim schools and 2,300 mosques scattered throughout the country.

The Fifth Plan 1982-1986: Summary of the Overall Development Targets

- (a) Targets for the restoration of the country's financial stability
 - Exports of goods to increase by 22.3 per cent per annum;
 - Imports of goods to increase by not more than 18.1 per cent per annum; and
 - Reduction of oil import volume by 3 per cent per annum on average.
- (b) Economic Production targets
 - GDP to grow by 6.6 per cent per annum;
 - Agriculture to grow by 4.5 per cent per annum;
 - Manufacturing industry to grow by 7.6 per cent per annum;
 - Mining output to grow by 16.4 per cent per annum;
 - Production of natural gas at least 525 million cu ft per day in 1986; and
 - Reduction of oil import volume by 3 per cent per year.

- (c) The Government's fiscal targets
 - Government revenue to rise by 22.3 per cent per annum (or 16.7 per cent of GDP on average); and
 - Government budget deficit not to exceed 22,000 million baht per year on average.
- (d) Social development and service targets consistent with economic targets
 - Reduction of the population growth rate to 1.5 per cent by 1986.
 - Health
 - (i) Reduce disease and mortality rate;
 - (ii) Expand government's medical services to all districts, *tambols* and villages; and
 - (iii) Expand immunization program coverage to 70 per cent of the target group.
 - Food and nutrition
 - (i) Completely eradicate protein and calorie deficiency of level 3 among babies and pre-school children from the present level of 2.2 per cent; and
 - (ii) Reduce protein and calorie deficiency among children of school age by 50 per cent from the present level of 40-50 per cent.
 - Safety of lives and property
 - (i) Reduce crimes connected with the taking of lives and bodily injury, and sex crimes, to less than 75 cases per 100,000 persons; and
 - (ii) Reduce rate of road accidents by 3 per cent per year.

THE PRESENT EDUCATION SYSTEM

Historical Context: As one of the few developing countries never to have been colonized, Thailand's educational system has not been dominated by any foreign power and Thai is the language of instruction.

Demographic Context: Thailand has a population of approximately 52 million (40 per cent under 15). The 1950s and 1960s were characterized by a rapid population growth of slightly over 3.0 per cent per year, largely resulting from marked improvements in public health after World War II. The 1970s, however, saw a rate of growth of approximately 2.0 per cent with a further reduction of 1.5 per cent by 1984. A

major school mapping project initiated in 1978 found a striking decrease in early primary school enrollment resulting from the fertility decline.

Occupational and Social Structure: Thailand has a stratified occupational and social class structure. Traditionally, high social prestige has been attached to government employee and the government sector has been the major source of employment for the more educated. Historically, social mobility has been high, but more recently socioeconomic conditions changed and the formal schooling which it facilitates has strongly influenced the movement of individuals to the highly desired modern sector.

Goals of Education: Formerly, the Government considered education as a means to foster national unity and to provide the basic competencies in literacy and numeracy necessary for further schooling and/or employment. For the Thai individual, schooling has been a major avenue of social mobility. Reflecting the education reform movement in 1974, in the 1977 National Education Scheme, the goals of education were further broadened to include the relationship between education, life and society. In addition to the regular academic skills in the old curriculum, the new Scheme placed special emphasis on instilling non-cognitive learning and moral values.

The education reform movement initiated in 1974 has significantly altered Thailand's school system. Today, more than nine million students are enrolled in primary and secondary schools; and universal primary education is expected by 1986. Institutions offering specialized skills, open universities, and special non-formal education programs, have been established to meet development needs. Despite regional disparities in educational standards and facilities, the teacher-pupil ratio in primary schools has improved dramatically. A new curriculum aims at education for life and society and utilizes a reformed, more flexible examination system. Thailand is currently attempting to reduce educational disparities, to promote greater deconcentration in administration, and to work toward quality improvements and relevance at all levels of education.

Pre-tertiary education now extends over 12 years, that is, six years of elementary education, which is compulsory, and six years of secondary education. All children aged seven are required to attend school until they reach the age of 14. There are two alternative channels of education: academic and vocational. The academic channel prepares students for universities, while the vocational channel prepares students for the skilled labor market. Education in all government schools is given practically free of charge.

Pre-School Education: The private sector and local communities are

encouraged to set up kindergartens and early childhood centers to serve local children throughout the country. Only 1-7 per cent of all pre-school centers are run by the Ministry of Education, and they are for demonstration and experimental purposes.

Primary Education: Primary education is free and provided universally by the Government. It emphasizes literacy, numeracy, communication skills, and abilities relevant to future occupational roles. Major problems at this level relate primarily to quality and equality.

Secondary Education: Secondary education aims to provide appropriate academic and vocational knowledge consistent with the learner's age, needs, interest, skills and aptitudes, which ultimately will be beneficial to the individual's career and to society in general. There are both public and private secondary schools. The Government makes efforts to promote secondary education and to guarantee equal opportunities. More emphasis is now put on vocational training.

Higher Education: Higher education aims at the further development of human intellectual abilities, the advancement of knowledge and technology and the provision of high-level academic and professional manpower needed for national development. Access to higher education in national universities is based on the secondary school-leaving certificate obtained after successful completion of six years of primary school and six years of secondary education. Admission to higher education is subject to the national university entrance examination usually held every April.

Higher education is given in universities and in specialized institutions of higher education. These institutions are classified under four categories:

- (a) state/national universities, institutes and private higher education institutions;
- (b) technical or vocational, agricultural and teacher training colleges;
- (c) other specialized or professional training institutions under the sponsorship of ministries and government organizations (e.g. nursing colleges, Buddhist colleges, military and police academies, etc.); and
- (d) an international institute (i.e. the Asian Institute of Technology).

There are at present 16 national universities and institutes. The Ministry of University Affairs serves as a coordinating agency between the universities and the Government. There are also a number of private higher education institutions offering undergraduate and graduate programs. Admission to the closed-admission universities is based on

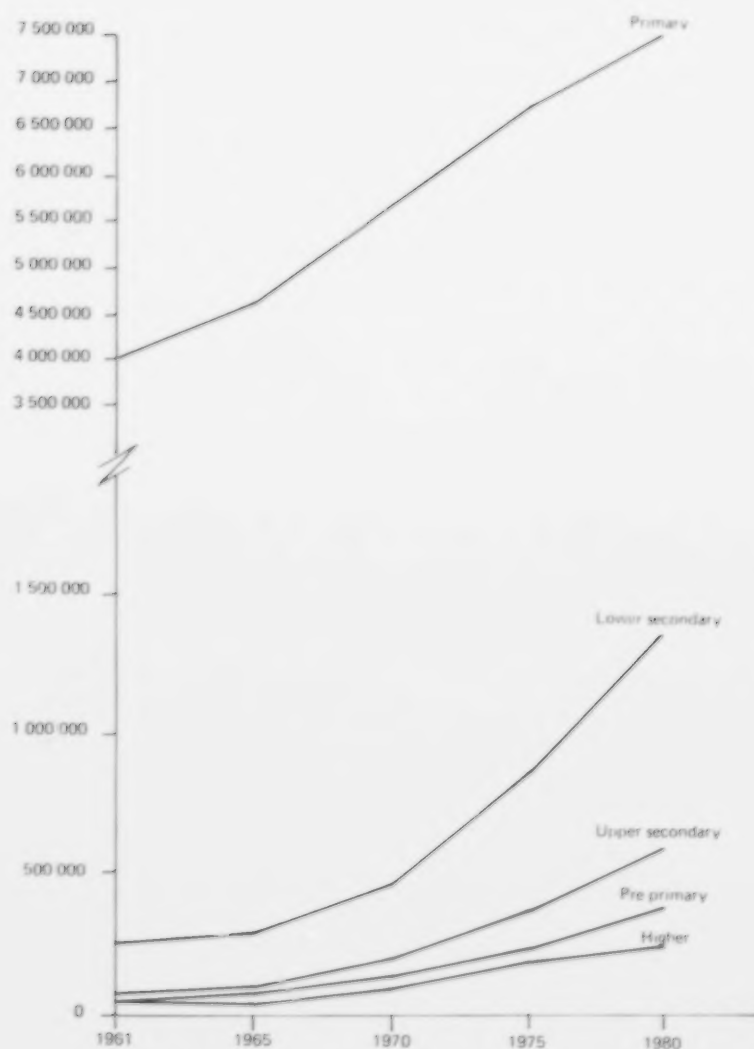
performance in a competitive joint entrance examination, whereas the two open-admission universities, Ramkhamhaeng University and Sukhothai Thammathirat Open University, require only the secondary school certificate.

Enrollment: Considering enrollment by levels of education, the increase in enrollment (in millions) from 1961 to 1980 was as follows: pre-primary, from 0.05 to 0.36; primary, from 4.09 to 7.45; lower secondary, from 0.25 to 1.35; upper secondary, from 0.80 to 0.58; and higher education, from 0.05 to 0.22, excluding 0.4 million enrollment in the open universities. Enrollment ratios in 1980 were 13.5 for pre-primary, 95.7 for primary, 28.5 for secondary, and 3.4 for higher education. The aggregate ratio for all levels was 43.4. An overview of the enrollment indicates that in 1978 the transition rate from primary to secondary was 62.13 and from secondary to tertiary was 39. Thailand has successfully implemented numerous programs and interventions to reduce disparity and inequalities in education. The proportion of female enrollment is over 0.42 at all levels.

Non-Formal Education: Non-formal education started 40 years ago, when the first adult education act was promulgated in 1940 marking the first attempt by the Thai Government to educate the out-of-school population, the major portion of which has been and still is being educated by Buddhist monks in monasteries. Its primary aim was to develop and conduct literacy programs for adults over 15 years old who were not in the formal school system. Over the subsequent years, non-formal education has evolved from simple literacy teaching to include a wide variety of programs which aim to equalize educational opportunities, to complement formal schooling and to further develop the knowledge and competencies of the population as a whole. Later on, vocational training became another prime objective when functional literacy programs were developed which related literacy to occupational skills. In the Thai non-formal education program, there has been emphasis on a process known as "Khit-pen", an approach designed to encourage harmony between individuals and their environment. "Khit-pen" means critical thinking, rational thinking and problem-solving.

At present, non-formal education is considered to be an integral part of the national education system. Over 40 agencies are actively involved in non-formal education utilizing an estimated budget of 400 million baht annually. To promote and coordinate non-formal education, the Department of Non-Formal Education was established in the Ministry of Education in 1979. Some of the educational programs which are at present available to the public include the functional literacy program, with curricula designed for different target groups, the

Table 1: ENROLLMENT BY LEVELS OF EDUCATION 1961-1980



Source: Office of the National Education Commission

functional education program, which provides education equivalent to the primary and secondary levels of the formal system, and a great variety of radio, television and correspondence education programs. Although non-formal education is relevant to all sectors of the out-of-school population, which constitutes over 80 per cent of the entire population, special emphasis has been given to the education of the minority groups, the rural poor and those with little formal schooling.

Types of Non-Formal Programs: The Department of Non-Formal Education is directly responsible for formulating non-formal education policy. Also, several other ministries and departments conduct non-formal education. The following are various programs in non-formal education: continuing education at five levels providing academic equivalency; short vocational courses of up to 12 months, including, for example, mobile trade schools; functional literacy, including critical thinking, problem-solving, numeracy and vocational subjects; and informational programs such as village newspaper reading centers and public libraries. In 1970, Thailand established an open admission university, Ramkhamhaeng University. Sukhothai Thammathirat Open University itself. The focus of this country case study, was founded in 1978 as an open university utilizing a multimedia distance teaching system. These institutions provide more opportunity for secondary graduates by providing them with university education.

Education Finance: Public support for education increased from 1.9 per cent of GDP in the 1960s to 3.3 per cent in 1970. The private sector, which is responsible for 1/8 of total enrollment, also contributes. The total state budget for education increased from 16.9 per cent in 1961 to 18.5 per cent in 1985. Currently, the education budget ranks second only to that of defense. Over the past two decades more than half of the education budget has been devoted to primary education. Since 1965, there has been a growing proportion of the education budget allocated to secondary and higher education, reflecting the growing social demand for higher levels of education and the high demographic growth rates of the recent past. In 1979, a new system was introduced for allocating primary school resources more equitably among provinces. Since nearly 98 per cent of local primary school funds derive from central government, the national government was able to reduce regional disparities. Under the new budgeting system, a wide range of key subnational educational indicators are used to allocate resources among provinces. The result is a noticeable reduction of regional disparities.

Teacher Education: Teacher training in Thailand is done at the tertiary level with two major streams of production. Ten faculties of education in various universities produce teachers at the bachelor's

Table 2: Allocation of the National Budget Among Levels of Education

Level of Education	Year									
	1961	1965	1970	1975	1980	1981	1982	1983	1984	
Primary	54.0	58.3	55.5	52.5	53.9	55.4	55.6	57.4	56.6	
Secondary	17.9	11.9	12.3	13.5	16.4	16.3	16.6	16.3	16.1	
Vocational	6.2	7.2	7.1	5.0	6.5	6.5	7.0	6.6	6.8	
Teacher Training	4.4	3.9	5.3	5.3	2.5	2.5	2.2	2.2	2.3	
University Education	8.2	10.4	12.5	14.4	14.5	12.4	12.8	12.1	12.5	
Non-Formal	0.5	0.4	0.8	1.1	1.8	1.6	1.6	1.6	1.7	
Others	8.8	7.9	6.5	8.2	4.4	5.3	4.2	3.8	4.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Source: Bureau of Budget National Annual Budget 1961-1984, Thailand.

degree and post-graduate levels. Thirty-six teacher colleges and other colleges for physical, vocational, technical, agricultural education, etc. are responsible for training teachers at the higher certificate and the bachelor's degree levels. In 1978, 13 per cent of teachers had a bachelor's degree or higher degree, 45.5 per cent a higher certificate, and 4.8 per cent vocational training. Relative to international standards, Thailand has a satisfactory student-teacher ratio at all levels of education. The highest is 27.7 at the kindergarten level, and the lowest is 19.6 at the MOE primary level. The accelerated production of a large number of teachers to cope with the temporary short-term deficiency and population growth during the Third National Educational Development Plan (1971-1976) has generated a high level of teacher and graduate unemployment. Thus, during the Fourth Plan (1977-1981), training of teachers at the higher certificate level was due to be progressively decreased. The decreasing production of teachers has affected severely the roles of the teacher training colleges. In contrast, given the great demand for vocational teachers, vocational teacher training is currently given the higher priority. A committee to coordinate and to improve the quality of teacher training was established in 1979. The committee proposed numerous recommendations such as the need for more selected criteria for the recruitment of instructors and students in teacher training, revision of curricula, and the promotion of research and development in teacher training. Most of the recommendations were incorporated into the Fifth Education Plan.

Curriculum Development and Teaching Methodology: School curricula have been modified in accordance with the new school structure. The Ministry of Education has major responsibility for the development of curricula at the primary and secondary school levels. University

curricula are decided by individual departments with approval from the University Council for the undergraduate level and from the Ministry of University Affairs for the post-graduate level. There exists efforts to emphasize relevance in curriculum development.

Scope of the Curriculum: Primary education has an integrated curriculum comprising four learning areas: basic skills, life experience, character development and work education. Since students' backgrounds in the various parts of the country are different, a basic national core curriculum allows a certain flexibility for regional diversification. The secondary curriculum covers five broad fields: language, science and mathematics, social studies, character development and work education. There is a wide range of exploratory pre-vocational subjects available. The use of a credit system facilitates flexibility in the teacher-learning process.

Instructional Materials: The Educational Techniques Department, with the assistance of cooperating agencies, is responsible for the production and improvement of learning materials such as lesson plans, textbooks, supplementary readers and teachers' guides. As soon as the national teacher-learning materials are prepared, regional curriculum development teams study them and decide on diversification and variations to suit a particular region.

Curriculum Implementation: To ensure that new curricula are implemented, a number of steps are taken. The most important is the nationwide short-term in-service training of teachers, level by level. Also, through the Free Textbook Program, the Government publishes and distributes new instructional materials to all schools. Finally, regular supervision as well as specific evaluations provide checks to ascertain the degree of compliance with standards.

Teaching Methods: Methods of instruction are generally suggested in the syllabus, and teachers are encouraged to keep abreast of educational changes and new teaching methods. The Ministry of Education also sends out supervisors to work with school teachers to help them improve their teaching. Some teachers, however, are still accustomed to using traditional methods of "chalk and talk".

Major Problems Related to Curricula and Teaching Methods: The first problem involves limited school supervision, resulting from shortages of personnel and budget. The second concerns the inadequate availability of textbooks, equipment and qualified teachers, particularly specialized pre-vocational teachers. The third is a lack of readiness for recent curricula changes, which has affected the quality of schooling. As for the university level, instruction in some areas is too often related to foreign texts.

The System of Examinations, Promotions and Certificates: Traditionally, Thailand's examination and promotion system was tightly structured, with a major emphasis on end-of-year examinations to determine promotion to the next level of schooling, with grades 4, 7, 10 and 12 examination administered externally by districts, provinces, regions and the Ministry of Education. Each of these grade levels determined a student's educational life chances. Entrance to grade 11, particularly in prestigious government and private schools, and a joint university entrance examination are highly selective. Educational curriculum reform would not be effective without concomitant examination reform. Thus, grades 11 and 12 end-of-year external examinations were abolished in 1975-1976 and 1976-1977. The new system emphasizes internal assessment and reduced emphasis on end-of-year examinations. In primary schools a similar reform has occurred with currently increased focus on the day-to-day accomplishment of specific behavioral objectives. As a result of the examination reform, promotion rates have tended to improve, resulting in a much more efficient education system. With regard to entrance examinations to upper secondary schools and universities, the traditional achievement tests have been revised. Regional universities have also established specific quotas to ensure more representation of students from the major regional areas. Employment opportunities, particularly in Thailand's modern sector, are significantly influenced by credentials.

Education Research: It was in the 1960s that the Thai Government began actively promoting research. The MOE and the NEC established research divisions working on practical problems such as curricula, texts, educational policy and administration. Research topics were closely related to the specific functions of various departments. Research began to be mentioned as one of the formal functions of the university in the 1950s. It was not until 1974, when the MUA introduced a new regulation requiring research work for promotion, the research activities became actively and systematically encouraged for the first time. The research agenda for the 1980s as specified by prominent Thai researchers and academics included: research into classroom realities; means to achieve qualitative improvements in basic competencies with constant or diminished costs, given present resource constraints; and other problems in education beyond pedagogy, such as rural education, non-formal education, and national education for ethnic minorities. With respect to research methodologies, two trends are emerging: the increased use of an interdisciplinary approach, and the recognition of qualitative methods as a legitimate research approach.

Administrative and Supervisory Structure and Operation: Four

ministries were responsible for education until 1980. The Ministry of the Interior (MOI) was in charge of nearly all primary schools in rural areas. The Ministry of Education (MOE), however, was responsible for secondary education, post-secondary vocational-technical education and teacher training, as well as providing supervisors and curriculum materials for both levels. The Ministry of University Affairs (MUA) was responsible for university education. Finally, the National Education Commission (NEC), in charge of educational policy-making and planning, is part of the Office of the Prime Minister. The excessive centralization and complexity of the administrative structure became a major issue in 1974 with the establishment by the Cabinet of the Educational Reform Committee. While the Reform Committee reviewed all aspects of education, a major focus was on the administrative structure of the Thai educational system. Basically, the Reform called for unifying diverse educational organizations under the MOE and for greater deconcentration of authority to the local level. Given several political changes, enactment of some important parts of the Reform was delayed. In October 1980, however, major administrative parts of the Reform became law. Control of Thailand's roughly 30,000 rural schools was returned to the Ministry of Education, under the Office of the National Primary Education Commission (ONPEC) which is responsible for its policy-making and planning. Actual day-to-day operations are controlled by 73 Provincial Primary Education Commissions, which have flexible control over placement of teachers and location of schools. Elected teacher representatives as well as appointed and ex-officio members serve on the governing boards of both the national and provincial primary school commissions.

General Structure and Size: The new 6-3-3 structure of education was introduced in 1978. The major elements of the formal education system are in Table 3.

Today there are 16 government universities and institutes in Thailand. They comprise 11 traditional universities, an open-admission university and one distance teaching university, Sukhothai Thammathirat Open University. To date, four private universities and 17 private colleges have been established. Both government and private universities are under the guidance and supervision of the Ministry of University Affairs. In addition, approximately 243 degree-granting institutions and non-degree post-secondary colleges operate under the supervision of the Ministry of Education and the Ministry of Public Health.

The concept of the Open University made its debut in Thailand with the inception of Ramkhamhaeng University in 1971. The aim of Ramkhamhaeng University was to make higher education available to students who, for financial, geographic or academic reasons, had no access to the country's selective admission universities. As an academic

Table 3: THE EDUCATIONAL SYSTEM

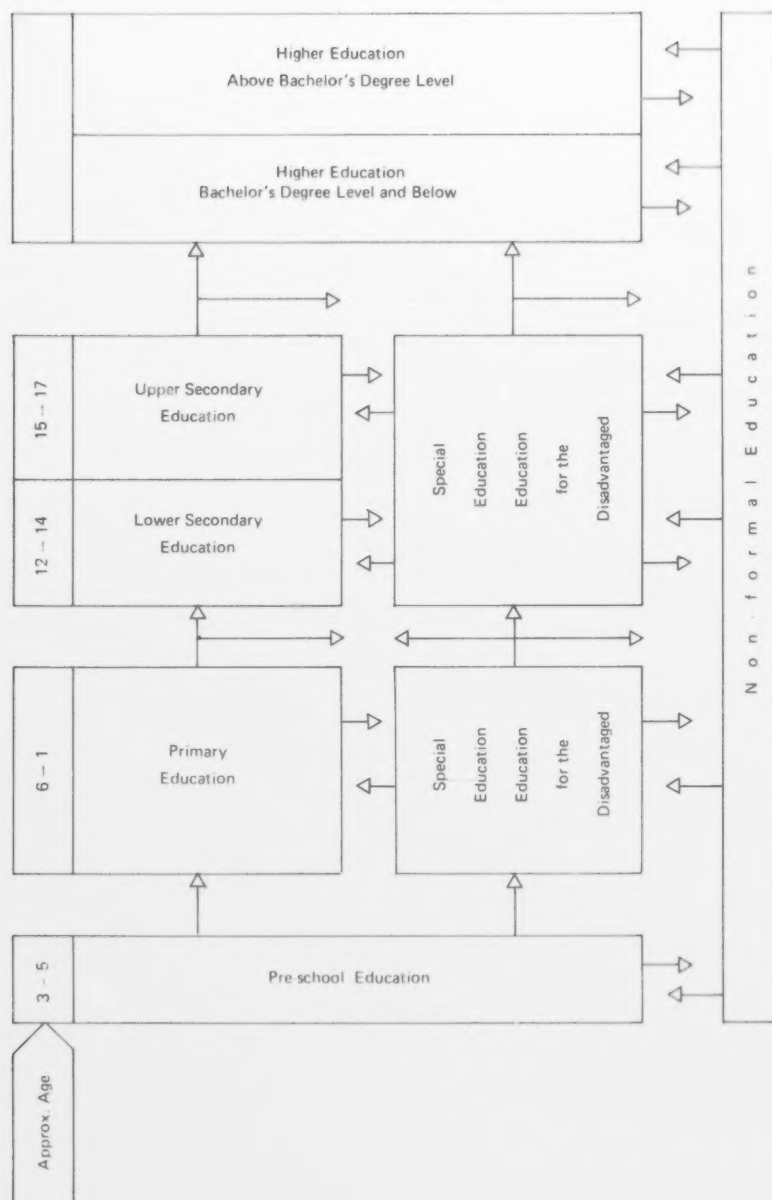


Table 4: Periods of Study Required for Different Degrees and Diplomas

Primary and Secondary Education (12 Years of Study)										Field of Study
Period of Study	1	2	3	4	5	6	7	8	9	
	:	:	:	B	:	M	:	:	D	Social and Public Administration
	:	:	:	:	:	:	:	:	:	Agriculture
	:	:	A	B	:	M	:	:	D	Architecture
	:	:	:	:	P	:	M	:	:	Arts
	:	:	:	B	:	M	:	:	D	Dentistry
	:	:	:	:	:	P	H	M	:	Education
	:	C	:	B	:	M	:	:	D	Engineering
	:	:	A	B	P	M	:	:	:	Fine Arts (except Decorative Arts-4 years)
	:	:	:	:	P	:	M	:	:	Law
	:	:	A	:	:	M	:	:	D	Medicine
	:	:	:	:	:	P	H	:	S	Pharmacy
	:	:	:	:	P	:	M	:	:	Science
	:	:	:	B	:	M	:	:	D	Social Science & Economics
	:	:	:	B	:	M	:	:	D	Veterinary Science
	:	:	:	:	:	P	:	:	:	
Degrees awarded:	A Associate's degree					H Higher Professional certificate				
	B Bachelor's degree					M Master's degree				
	C Certificate					P Professional degree				
	D Doctor's degree					S Specialization				

Table 5: State Universities

Founded in:	
1917	- Chulalongkorn University
1933	- Thammasat University
1942	- Mahidol University
1943	- Kasetsart University
1943	- Silpakorn University
1965	- Chiang Mai University
1966	- Khon Kaen University
1966	- National Institute of Development Administration (Graduate School)
1968	- Prince of Songkhla University
1971	- King Mongkut's Institutes of Technology (with 2 additional Institutes in 1968)
1971	- Ramkhamhaeng University (Open-admission University)
1974	- Sri Nakharinwirot University
1975	- Institute of Agricultural Technology
1978	- Sukhothai Thammathirat Open University

market university, Ramkhamhaeng University adopted an open-admission approach with classroom activities where attendance was not compulsory. By its tenth year, the number of students had greatly increased, so that a second campus was required. In 1979, the enrollment of new students totalled 110,000.

To allow Ramkhamhaeng University to restrict the number of students, and at the same time, to provide broader educational opportunities to working adults, the Thai Government established another open university, Sukhothai Thammathirat Open University, in 1978 to operate by means of a distance teaching and learning system depending largely on an integrated media approach, and offering open learning based on the principle of lifelong education. The underlying principle was that the Open University would provide the ideal answer to the country's crucial need for a "second chance" education. Working professional people would be able to update their knowledge and upgrade themselves by enrolling in courses which would not conflict with their work schedule; others who were forced to interrupt their studies to seek employment would be able to continue to study in their own time.

Higher education in Thailand has expanded at a rapid rate. During the initial period, the manpower approach was the main theme of expansion. As a result, the universities have tried to find ways and means to fulfill this desire despite their rather limited resources. There is an inevitable conflict between the need to satisfy the social demand and the need to supply the manpower. The important problem will be finding an ideal balance between the two requirements. The implementation of measures to restrict the number of students in selected admission universities to conform with manpower requirements is less difficult than carrying out the same restrictive measures in open universities; sometimes it is virtually impossible in the latter case. The problem of unemployment will become more intensified for graduates from both conventional and open universities in the same fields of study. One possible solution is to progressively restrict the number admitted to Ramkhamhaeng University, while at the same time offering distance learning as an opportunity for continuing education for the masses, as a part of the adult education program. It is in the latter area that Sukhothai Thammathirat Open University will play an increasingly significant role in the social and educational development of the nation.

Table 6: Institutions of Education Under Various Ministries

Control Support	Ministry of University Affairs	Ministry of Education and Others
Government		<i>Government Colleges Ministry of Education</i>
		1 College of Technology & Vocational Education with 29 campuses
		78 Technical Colleges 34 Vocational Colleges 45 Agricultural Colleges 36 Teacher Training Colleges 17 Physical Education Colleges 10 Dramatic Arts Colleges
	<i>Government Universities</i>	<i>Ministry of Public Health</i>
	11 universities 5 institutes	21 Nursing Colleges
Non-Government		<i>Government Specialized Institution/Other Ministries</i>
		4 Military/Police Academies 2 Military/Police Nursing Schools 10 Other Ministries' Schools 1 Nursing College under Bangkok Metropolitan Administration
	<i>Private Institutions</i>	<i>Private Specialized Institutions</i>
	4 universities	1 Nursing College of the Bangkok Seventh Day Adventist Hospital
	17 private colleges	2 Buddhist Colleges 1 Asian Institute of Technology

EDUCATIONAL BROADCASTING

Broadcasting media in Thailand have been developed for government and general use, particularly for commercial use and entertainment since 1930, when the first radio broadcasting station was established. A study on the role of broadcasting in people's education conducted by the National Education Committee in 1978 found that radio programs consisted of entertainment (50 per cent), news and information (24 per cent), education and culture (19 per cent), and advertisements (7 per cent). Television programs consisted of entertainment (63 per cent), news and information (17 per cent), education and culture (14 per cent), and advertisements (6 per cent). While radio and television have been available in Thailand for some time, school broadcasting programs were not developed until the School Broadcasting Division was organized in the Ministry of Education in 1963.

Radio

School Radio Programs: The Ministry of Education provides 31.5 hours of programming per week. In-school programs are offered in three main subject areas in the following pattern: elementary level Social Studies (four levels, 15 minutes each, repeated twice within the week); elementary level Music and Singing (four levels fortnightly, 20 minutes each, repeated once in the first week and twice in the second or off week); elementary-level English (three levels, 20 minutes weekly, each repeated three times). School radio programs support the curriculum directly. English broadcasts are based on set texts and learning is largely by drill. Music involves a straight teaching approach to songs, with linking narration. However, social studies programs use a dramatized method involving prepared broadcast scripts, actors and sound effects.

Adult Programs: Adult programming is much more complex than school programming since many other ministries are involved, as well as independent stations. The Public Relations Department and the Ministries of Agriculture and Health are all to a greater or lesser extent active in the field, without any overall form of coordination or control of effort. For adults, there is a wide range of radio programming available from the Public Relations Department, the Ministry of Education and university stations. Adult programs are generally prerecorded and also performed unrehearsed. In country areas where there are colleges and universities, some programs for adults are also produced on a variety of general topics, such as agriculture and law at Khon Kaen, and agriculture, politics and languages at Chiang Mai. However, there is no cooperation between producers at any stage and there is no clear

indication of audience acceptance except from letters. Most programs are broadcast between 6 and 10 at night, when it is expected that adults will be listening. Weekly program guides are issued by many institutions.

Agricultural Programs: Kasetsart University, originally Thailand's first agricultural university, has an active radio station which broadcasts 17 hours a day. However, of these 17 hours, 15 hours of programming are actually produced by commercial agencies. The operation of the station is entirely financed through commercial sponsorship. At the end of each sponsored program, there is a short (one to one-and-a-half minute) slot for agricultural education material. This takes the form of a straight talk which is either scripted by the producer or by a lecturer from the university. And, in addition to these very short talks, there is a 30-minute program of general agricultural information which attempts to deal with topical and seasonal problems faced by farmers. Each week the Ministry of Agriculture Extension Service produces three 30-minute programs on general agriculture, similar to those produced by the Public Relations Department, which gives good coverage of the Central Plain. These programs are also sent to 12 other provincial stations.

Educational Television

Open Broadcast Television: Prior to the establishment of Ramkhamhaeng University and Sukhothai Thammathirat Open University, which now produce their own programs for television broadcasting, educational television was carried out by two agencies, The Ministry of Education (through its Center for Educational Technology) and the Bangkok Metropolitan Instructional Television Section.

CCTV in Colleges and Universities: Ramkhamhaeng University in Bangkok mainly provides notes for students who cannot attend lectures. There is no attempt to tape material for later redistribution. Three large lecture rooms use CCTV as a means to show the lecture on monitors to enable more students to feel close to the lecturer. Many teachers' colleges and all national universities have their own monochrome or color CCTV. These colleges and universities use CCTV both as the materials of their course instruction and supplement services for other departments inside their own institution.

Future Educational Broadcasting in Thailand: Thailand utilizes broadcasting media in three areas. Firstly, there are school broadcasts which present materials that directly support kindergartens, elementary, secondary and higher education curricula. Secondly, there are programs for adults in specific areas of interest, particularly information on housework and occupations. And thirdly, there are formal and

people in the following programs:

- (i) Interest Group Programs (for any skill requiring less than 30 hours);
- (ii) Short-term Vocational Skill Training Programs (100-300 hours);
 - Industrial Arts: radio-repairing, electrical wiring, welding, mechanics, etc.
 - Home Economics: food preparation, hairdressing, dress-making and tailoring, etc.
 - Business Administration: typing, bookkeeping, marketing and cooperatives, etc.
- (iii) Long-term Skills Training Programs (4-5 months) in agriculture; and
- (iv) Specific Training Programs

Non-Formal Education Through Radio and Correspondence

The Radio and Correspondence Non-Formal Education Section is responsible for the operation of radio correspondence programs. Currently, radio and correspondence play important roles in both in-school and out-of-school education. Radio can be broadcast over wide areas where land transportation facilities do not exist. Transistor receivers are cheap and can be operated with batteries. Radio is therefore a much better medium and more economical than any other form of mass media education.

Radio and correspondence courses provide out-of-school people with equal opportunities and rights to education useful for their existence.

Ways of Studying:

- (a) Listening to the radio;
- (b) Studying correspondence materials and following prescribed activities; and
- (c) Meeting teachers in groups for at least three hours a week.

Ways of Teaching:

- (a) Through radio broadcasts
- (b) Through postal correspondence; and
- (c) Through meeting groups of students at least three hours weekly.

Learning in Interest Groups:

- (a) Students listen to at least three 30-minute radio programs a week; and
- (b) Students study by themselves correspondence materials and carry out prescribed activities and meet group teachers to review lessons and join in discussions and other activities concerned with at least three topics a week contained in the lessons.

Learning by the Functional Education Program:

- (a) In the Basic Functional Literacy Program, students listen to at least three 30-minute radio programs per week. They then practice reading, writing and arithmetic, and complete exercises. They meet a group tutor for not less than three hours a week to review lessons and to participate in discussions on problems raised by the group tutor.
- (b) Functional Education:
 - (i) Learning by listening to six 30-minute radio broadcasts a week;
 - (ii) Learning by themselves from correspondence materials and prescribed reading and doing activities and exercises; and
 - (iii) Learning by meeting a group of teachers at least three hours a week to review the lessons, ask questions and join in discussion of Life Experience subjects.

Center for Educational Technology

The Center for Educational Technology is responsible for providing, improving and promoting efficient formal and non-formal education through the study and application of new technology. It is the center of educational innovation and technology. In addition, the center operates educational radio and television programs. This center's responsibilities include the following:

The School Broadcast Section, responsible for providing and producing school radio programs in various subjects, developing the means of teaching and learning as well as promoting radio programs through the use of new technology in order to be genuinely efficient and practical in both formal and non-formal education.

The General Educational Broadcasting Section, responsible for organizing non-formal educational radio programs in Bangkok metropolis and other provinces, for assisting other radio stations in Bangkok and the provinces by providing requested radio programs and for

cooperating with other agencies in publicizing their projects and activities for the public. This section also assumes the duty of assisting universities through broadcasting lectures for students as requested. The section also trains announcers and radio scriptwriters for child and adult programs.

The Educational Television Section, responsible for producing and providing educational television programs to promote the studies of many subjects for children and youths who need to enlarge their experience and to increase knowledge necessary for occupational careers. The aim is to use television in combination with other media to provide formal and non-formal education in the future.

Table 7: Some Statistics for Non-Formal Distance Education (1983)

Non-Formal Education Through Radio and Correspondence		
-	The Functional Education and the Interest Groups	
	342 groups	10,858 students
Center for Educational Technology		
-	The School Broadcast Service	
	10,910 programs	5,280 hours
-	The General Educational Broadcasting Service	
	5,888 programs	1,974 hours
-	The Experiment in Teaching Basic Skill Groups	
	636 programs	318 hours
-	The Educational Television Service	
	202 programs	105 hours

Other Institutions in Thailand Employing Distance Education Methods

Bansomdej Chaopraya Teachers' College, Bangkok

A teachers' college offering courses to B.Ed. Level in primary and secondary education, educational technology and school administration. Instruction is by means of correspondence materials, mobile units and instructors' visits, with an enrollment of approximately 600.

Faculty of Pharmaceutical Science, Chulalongkorn University, Bangkok

The Faculty offers a refresher course to register certified pharmacists to bring them up-to-date with modern technological developments. A certificate is awarded on completion of the course, which is taught by means of correspondence materials, cassette recordings and other

means when available.

College of Engineering, Chulalongkorn University, Bangkok

The College offers a Continuing Education program leading to the award of a Certificate in Construction Management for engineers who wish to keep up-to-date with new techniques. Instruction is by correspondence, supplemented by classes. Enrollment is about 40.

Maharakam Teachers' College, Maharakam

This provincial teachers' college provides an in-service training program for teachers in primary and secondary schools leading to the award of a bachelor's degree. Enrollment is 2,550 and instruction is by means of correspondence materials and self-instructional materials.

In-Service Teacher Training Division, Ministry of Education, Bangkok

The Ministry of Education's in-service teacher-training program is intended particularly for teachers in rural areas who have no opportunity to attend full-time courses. The In-Service Teacher Training Division Radio-Correspondence Program offers courses both at the Certificate in Education level and the Secondary Grade Teacher Certificate level, and the Program leads to the award of a diploma. Enrollment is about 1,700 and instruction is by means of radio programs and correspondence materials, including cassette tapes.

Piboolsongkarn Teacher's College, Pitsanuloke

This provincial teacher's college provides an in-service training program at Certificate and Bachelor's Degree levels. Enrollment is between 3,000 and 4,000 and instruction is by means of radio programs with correspondence materials. The college also employs a "Tele-conference" technique with related correspondence materials.

Sakon Nakorn Teacher's College, Sakon Nakorn

This teacher's college provides educational radio programs aimed at the general population of the province in which it is located, with the intention of "contributing to the improvement of human quality". The programs are broadcast over the local radio on Saturdays and Sundays;

lifelong education programs conducted by many institutions. These unfortunately lack appropriate coordination. Broadcasting facilities are mainly at the stations of independent organizations and coverage is very limited. In order to overcome current problems, the National Assembly has established policies and developed an overall system for future educational broadcasting as described below.

Organization, Planning and Program Preparation: For purposes of organization, planning and program preparation, national committees are organized from institutions, departments and ministries concerned. The Overall Planning and Coordination for Educational Innovation Committee concerns itself with school curriculum objectives and their relation to the media. The overall coordination of broadcasting committee considers the utilization of radio and television stations. There are coordination committees for Educational Media Provision and adult and life-long education.

The Center for Educational Technology: This Center was organized within the Ministry of Education and is responsible for all education media production, distribution and coordination of adult and non-formal education. The Center is composed of various sections such as the Radio Section, the TV Section, Audiovisual and Support Services, etc. The Center also takes responsibility for center relations with external agencies and ministries, particularly in the areas of adult education and development work.

National Radio Network for Education and Development: This project is supported by a World Bank loan and was completed in 1982. The total coverage of the network will exceed 90 per cent of the nation's population and will especially be used for education and development. The network comprises nine radio stations and 12 regional centers which control and operate broadcasting programs. Operated 18 hours a day, the time-sharing is as follows:

- (a) School broadcasting programs (elementary and secondary school 6 hours on weekdays);
- (b) Adult and non-formal education broadcasting programs (3-4 hours);
- (c) In-service teacher training programs (2-4 hours); and
- (d) Sukhothai Thammathirat Open University programs (6-8 hours).

THE DISTANCE EDUCATION SITUATION IN THAILAND

STOU is by far the largest distance education institution in Thailand and can claim to be the only one employing a full range of integrated

multimedia teaching materials in its distance teaching system, as described in detail elsewhere in this case study.

The second largest practitioner of distance education methods in terms of student enrollment and the scope of its operations is the Department of Non-Formal Education, which, unlike STOU, is not wholly devoted to a distance education system but makes use of certain distance education techniques and some of the technologies associated with them. The following is a survey of the work of the Department of Non-Formal Education in terms of its application of distance education methods, and of a number of other institutions in Thailand which employ distance education methods, mostly of the correspondence course variety on a small scale.

The Department of Non-Formal Education

The Department of Non-Formal Education, established in 1979, views the goal of education as education for life and society and the process of lifelong. The lifelong education process consists of three main components which are interrelated as shown in the figure below:

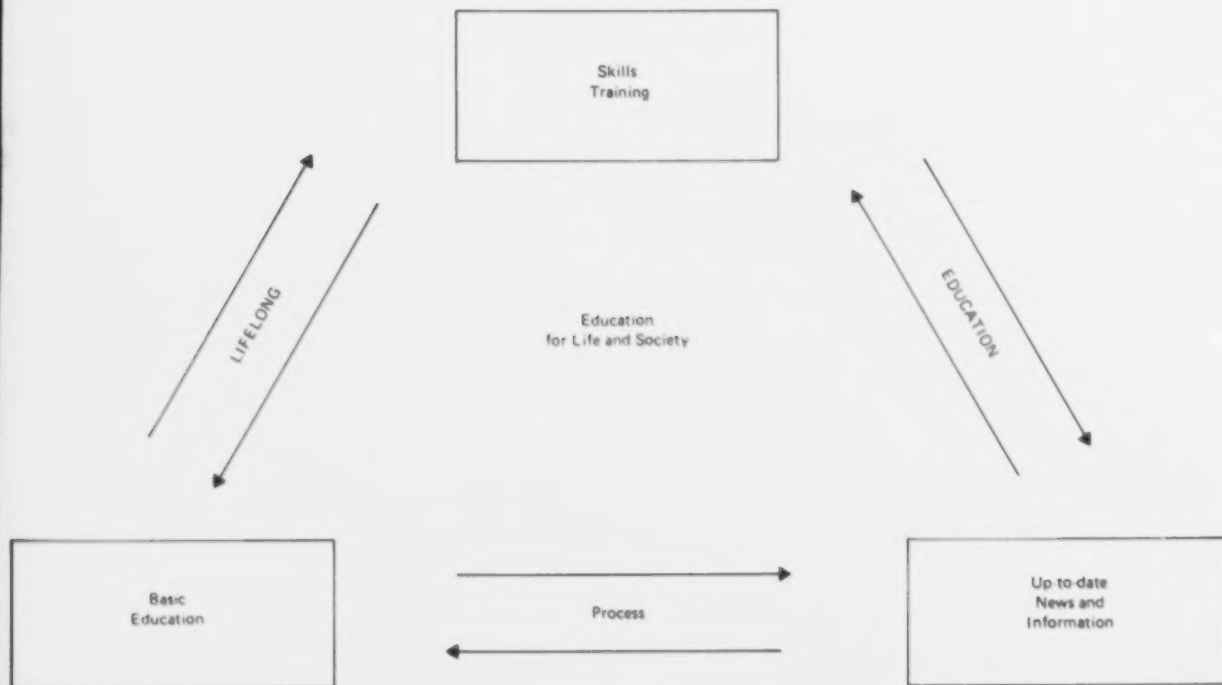
The Department is committed to the function of providing non-formal education services in all three components with varying degrees of intensity depending upon the number of services already provided by other agencies in each component.

Basic Education

The Department's responsibility in this area is to organize non-formal education programs for adults who have missed the opportunity for formal schooling or have dropped out. The purpose is to build up an educational background appropriate for conducting a living in society. The programs that are considered to belong to this category are:

- (a) Programs for equipping learners with basic tools:
 - (i) Literacy Campaign Project
 - (ii) Functional Literacy Programs
 - Classroom type
 - Walking teacher type
 - College student type
 - Buddhist Monk type
 - Hill-tribes
 - Military recruits
- (b) Continuing Education Programs
 - (iii) Functional Education Programs
 - (iv) Radio-Correspondence Program and
 - (v) Short-term Training Program for Villagers

Fig. 1: NON-FORMAL EDUCATION AND THE LIFELONG EDUCATION PROCESS



News and Information

The Department has the responsibility of making current news and information available for the population to take advantage of as equally as possible.

The Department's programs in this category are:

- | | |
|---------------------------------|-----------------------------------|
| - Village Reading Centers | - Mobile Exhibition Units |
| - Public and Mobile Libraries | - Science Museum |
| - Reading Materials Production | - Natural History Museum |
| - Mobile Audiovisual Units | - Planetarium |
| - Radio-Correspondence Programs | - Educational Television Programs |

Skills Training

The Department helps provide teachers or funds to hire local experts for skill-training courses as specified and requested by groups of no correspondence materials are used.

Justification of Distance Education Programs in Thailand

Thailand experiences many of the factors influencing the development of national educational systems that prevail in other countries of the region. Its expanding population and the corresponding increasing demand for educational opportunities have put a severe strain on its educational system in the last two or three decades, resulting in a hurried increase in the number of new colleges and universities and the expansion and upgrading of existing ones. As in neighboring countries, the quality of education is unevenly distributed with the most prestigious institutions of higher education being concentrated in the capital and a few other urban centers at the expense of the rural areas.

Fortunately, Thailand is a fairly compact country and its population is culturally and linguistically homogenous, with no significantly different ethnic minority. This removes the need for an admission policy using a quota system to cater for ethnic or strictly regional groups, as used in Malaysia or Sri Lanka. However, the country is still large enough to make it difficult for people in remote areas to have access to higher education facilities which are concentrated in the urban areas. Distance education is a means of relieving the strain on the capital's services by enabling the student to remain in his own home and to continue in his employment while at the same time improving his

qualifications. Such considerations are most relevant to developing countries such as Thailand, whose cities have become enormously overcrowded as rural migrants flood-in in search of employment, leading to a near-breakdown in essential services and to cramped living conditions. The use of distance education techniques and the mass media means that instead of having to face the expense of going back to Bangkok, Manila or Jakarta, the distance education student can study in the peace of his own home and at a fraction of the cost, without interrupting his earning capability.

Thailand, like its neighbors, depends largely on agriculture and is still a relatively poor country. However, its mass communications networks have now been developed to the point where information and educational material can be communicated to the great majority of the population, which can afford the equipment to receive it. The use of modern communications technology as a channel for the dissemination of knowledge reduces the pressure on governments, as it enables them to provide higher education without heavy investment. This is conditional upon large-scale enrollment in distance education programs, so that the effect of economy scale can reduce the costs both to the institution and to the individual.

Distance education in Thailand needs to employ means and communications technologies which are appropriate to the situations in the country. Literacy in Thailand is estimated to be around the 86 per cent mark; printed materials can therefore be used to a larger extent than in some other countries with a lower rate of literacy. Radio coverage extends to most of the country, and ownership of personal radios is widespread. Radio as an educational medium is therefore significant. Techniques and methods applied in other countries, such as the radio forums or radio clubs formed in India¹ and Niger² would be appropriate to Thailand, as would programs such as the Nicaraguan Radio Mathematics Projects which won the Japan Price for International Radio Program in 1982. As cassette players are freely available and within the pocket of the average Thai, audiocassettes have also become a most useful medium of distance education.

Television naturally plays a significant role in distance education, as in neighboring countries, and due to the compact and homogenous nature of the country and its culture, is somewhat easier to apply educationally than in some other larger countries. In India, the use of the

¹ Mathur, J.C., and Neurath, P., *An Indian Experiment in Farm Radio Forums*, UNESCO, Paris, 1959.

² Lefrance, R., "Radio Clubs in Niger", in *New Educational Media in Action*, Vol. 3, UNESCO, Paris, 1967.

Indian National Satellite System (INSAT)³ reflects the huge size of the country. In Thailand, TV coverage can be, to some extent, handled by relay stations and regional transmitters. The application of TV could well emulate some of the techniques which have been tried out in other countries. The concept of the "Krishi Darshan" TV program for Indian farmers⁴ has obvious applications in an agricultural country such as Thailand, as do the idea of "teleclubs" in Senegal⁵ and the rural TV program on the Philippine islands of Cebu and Negros⁶.

The role of distance education in responding to the needs of society differs from country to country in the Asia-Pacific region. Some institutes aim their courses at specific sectors of the community, such as in the case of the Darling Downs College of Advanced Education in Australia, which focuses mainly on engineering technology in order to augment and improve manpower for technical jobs, or the Universiti Sains Malaysia's off-campus academic program, which concentrates on the pure sciences and mathematics. Thailand's STOU and the Open University in China offer a broader access to higher education and attempt to correct geographical imbalances by distributing educational facilities more evenly. STOU up to now has concentrated on sectors of the community other than engineers and technicians: the majority of persons enrolling in STOU's courses tend to be teachers, government officials and people working in agriculture and the private sector. In view of Thailand's accelerating process of industrialization and the Government's concern about the shortage of suitably-qualified engineers and technicians, it seems likely that distance education in the country will, in future, place more emphasis on technological fields of study.

Distance education would appear to be an appropriate approach to apply in Thailand as a response to the increasing demand for higher education. It is cost-effective for the Government and affordable for the student; it democratizes opportunities for higher education; and it develops a pool of well-educated manpower ready to take its part in the building up of a modern technological society.

³ INSAT Coordination Committee, *The Indian National Satellite System*, Government of India, January 1984.

⁴ Scharmm, W., "Ten Years of Radio Rural Forums", in *New Educational Media in Action*, Vol. 1, UNESCO, Paris, 1967.

⁵ Ingle, Henry T., *Communication Media and Technology: A Look at their Role in Non-formal Programs*, Academy for Educational Development, Washington, D.C., 1974.

⁶ Bourret, Philip, *Television in Rural Areas, A Low-Cost Alternative in Educational Television: A Policy Critique and Guide for Developing Countries - A Report to the Ford Foundation* by Robert Arno and Arthur Coladerei, May 1973.

THAILAND'S DISTANCE EDUCATION INSTITUTION: SUKHOTHAI THAMMATHIRAT OPEN UNIVERSITY

Educational Philosophy

Like other conventional state universities, Sukhothai Thammathirat Open University is also under the guidance of the Ministry of University Affairs, enjoys a great degree of autonomy, and has the right to award its own degrees. As an open university, STOU holds to the principle of lifelong education and aims at improving the quality of life of the people in response to the ever-increasing demand for higher education. The education programs are administered under an "open admission" system. The University employs distance teaching techniques to enable the student to study by himself without having to attend classes as in conventional institutions of higher education. In this way, adult education is provided to those who are working, so that they have a chance to raise their educational standards. People in all walks of life are given opportunities to enrich their knowledge and improve their professional competence. Moreover, opportunities for high school graduates are increased.

Objectives

To put the educational philosophy mentioned above into practice, Sukhothai Thammathirat Open University has the following objectives:

- (a) To provide and promote university and professional education so as to enable the people to raise their educational standards in response to the needs of society;
- (b) To promote research so as to generate new knowledge and to apply it to national development;
- (c) To render public service by disseminating knowledge so as to promote personal development and professional competence; and
- (d) To preserve and develop national culture.

The University's general method of operation is spelled out in Section 6 of the Sukhothai Thammathirat Open University Act of 1978 which states:

"The education provided by the University shall be given through correspondence, radio and television broadcasting or other media which will enable students to learn by themselves without having to attend classes. Eligibility for enrollment and admission to the University shall

be in accordance with the regulations prescribed by the University Council and shall be without entrance examination."

Academic Structure

Degree and Non-Degree Programs: In accordance with its objectives and belief in lifelong education, STOU offers two types of programs of study: one for degree purposes and the other for non-degree purposes. The kinds of courses offered for the degree program are based on the needs of the community and their compatibility with the University's distance teaching system. The following students are eligible for enrollment in the degree program without taking an entrance examination:

- (a) Holders of MS 5 certificates or their equivalent;
- (b) Holders of MS 3 certificates who have had 5 years of work experience since receiving their certificates and who are over 20 years of age as of the 1st of July of the enrollment year; and
- (c) Holders of diplomas or degrees of any level, or their equivalent, from institutions of higher education as approved by the STOU University Council.

In non-degree programs, specially designed courses are offered as an educational service to the general public to promote personnel development and professional competence.

Admission: STOU admitted its first batch of students in 1980. Applications for admission are made by post. The regulations and procedures governing admission are announced before each registration period.

Continuing Education Program: As for continuing or adult education, STOU offers short courses for non-degree or non-certificate purposes in various study areas. The aim is to enable working people to develop their skills and gain the kind of knowledge essential for professional competence. With the belief that people need to be educated from birth to death and that education constitutes one of the main necessities of life, STOU makes great efforts to design its courses for prospective learners to choose according to their individual needs.

Diffusion of Knowledge and Provision of Educational Services: Knowledge is diffused and educational services provided to the community by STOU in other forms including:

- (a) Diffusion of knowledge in a given area by organizing regular training courses, either short or long ones, through the distance teaching/learning system;

- (b) Diffusion of general knowledge through various teaching media; and
- (c) Diffusion of technical and professional knowledge and advice to the community through the services of resource personnel.

Study Areas or Schools: STOU does not follow the traditional practice of organizing a university into faculties and departments. It consists of major study areas or schools, each having a Board of Studies of its own. As far as course provision is concerned, the University offers courses in such areas of knowledge as are considered related to or essential for national development.

Courses offered include those in the following areas:

- (a) Liberal Arts
- (b) Educational Studies
- (c) Management Science
- (d) Law
- (e) Economics
- (f) Health Science
- (g) Home Economics
- (h) Agricultural Extension and Cooperatives
- (i) Political Science
- (j) Communication Arts

Boards of Studies: Each school has a Board of Studies which consists of a chairman and 3 to 7 members elected by the full-time staff of that school. Each Board of Studies is in charge of all the academic and administrative matters of the school, as well as other assignments entrusted by the University Council or the Academic Senate.

Academic Assessors: Each school has some 5 to 11 Academic Assessors to advise on academic standards, curriculum development, instruction, evaluation and educational services. Besides their advisory capacity, Academic Assessors also serve as the University's external examiners. Academic Assessors are appointed from among those considered outstanding in the academic community.

Methods of Instruction: STOU does not have its own classrooms, and relies instead on its regional and local study centers to provide study facilities for students in various parts of the country. The University employs distance-teaching techniques to impart instruction. To enable the student to undertake independent study with a minimum of assistance, STOU divides each six-credit course into 15 units, a unit requiring one week of study, and uses a combination of different media integrated in such a way as to render teaching as effective as possible.

The teaching media at STOU consist of printed face-to-face course materials, audiocassette tapes, and a certain number of face-to-face

tutorial and counselling sessions at local and regional study centers. Although printed material constitutes the principal medium of instruction, it is deemed advisable to provide audiocassette tapes as well as radio and television programs as support media to reinforce the content of the print, to stimulate the student, and to make him feel less isolated in his study.

Requirements for a Degree: STOU uses a two-semester system and allows its students to earn a degree in 2 to 12 years. Courses are so designed as to provide integrated study of interrelated subjects. Each course is worth six credits. A student must take at least one course but cannot take more than three courses each semester, building up credits until he has the number of credits required in the area of his choice which qualifies him for a degree. The number of credits needed for a bachelor's degree is from 132 to 144.

Evaluation System: STOU measures the quality of the student's work by a grade system. The grading system consists of three grades, "H" (Honors), "S" (Satisfactory) and "U" (Unsatisfactory). To qualify for graduation in the degree program, a student must obtain a grade "S" in all the courses required for a degree in a given area. To qualify for a second class honors degree, a student must obtain a grade "H" in at least half of the number of courses required for a degree in a given area. To qualify for a first class honors degree, a student must obtain a grade "H" in at least three-fourths of the number of courses required for a degree in a given area. When a student has built up a sufficient number of courses for a degree in a given area, he must participate in an intensive study workshop at a designated study center. The assessment of the student's performance in the intensive residential workshop, which is designated to be a culminating activity, contributes to meeting the graduation requirements of prospective graduates. Only when he has passed this graduate experience enrichment program will he be considered to have completed all the requirements for a degree.

Full-time and Part-time Staff: As STOU provides only home-based study and uses educational media to impart instruction, the number of staff required is smaller than that in conventional universities. The University has only the personnel necessary to provide academic and support services. Normally one instructor is responsible for two courses or 12 credits. A degree program which consists of 22-24 six-credit courses requires some 12 full-time staff members. Assistance in the preparation of materials and for other services is also sought from experts from outside bodies and staff members of other universities whose academic achievements have been outstanding. This is arranged through borrowing, contracting, or hiring on a full-time or part-time basis. Such measures make personnel utilization much more flexible and economical.

Linkage with other Institutions and Agencies: STOU students are distributed throughout the country. In order to impart instruction effectively to its home-based students, the University has set up a national network of regional and local study centers. These regional study centers are based in existing local educational establishments. There are local study centers under each regional study center which provides educational facilities to students in the area. At each local study center, where students have access to textbooks, instructional materials and audiovisual equipment, at least one instructor is assigned to provide academic counselling and other services. Academic tutors are recruited from faculty members of existing institutions of higher education and from various agencies, both public and private, in the regions. Furthermore, the physical facilities of local educational establishments are also used as examination centers and local personnel are recruited for various related tasks.

Linkage with Mass Media: To enable its students to study on their own without class attendance, the University relies on a multimedia teaching approach by using printed texts and other printed materials as the principal means of providing home-based education and supplements them with radio and television broadcasts, videotapes and other recorded course materials. However, the University has not set up its own radio and television stations. For the purpose of economy, it uses the existing radio networks of the Public Relations Department and the Mass Communications Organization of Thailand. Of particular importance are the Public Relations Department's radio and television networks for education.

Administrative Structure

Like other conventional state universities, Sukhothai Thammathirat Open University is also under the guidance of the Ministry of University Affairs and enjoys a great degree of autonomy. Headed by a Rector, the University is governed by the University Council and the Academic Senate. According to the Sukhothai Thammathirat University Act of 1978, the authority and duties of these two University bodies are as follows:

The University Council: As the supreme governing body, the University Council has the authority and duty to:

- (a) supervise the conduct of all University affairs;
- (b) formulate policies;
- (c) establish the rules and regulations of the University;
- (d) approve the awarding of degrees, diplomas and certificates;
- (e) consider the establishment, dissolution, and amalgamation of

- any institute, office or academic division;
- (f) approve the affiliation of other institutions of higher education;
- (g) consider the appointment or dismissal of the Rector and Professors;
- (h) approve the appointment or dismissal of Vice-Rectors, Directors and Deputy Directors of Institutes, Directors and Deputy Directors of Offices, Associate Professors and Assistant Professors;
- (i) establish rules for finance and property management at the University;
- (j) appoint ad hoc committees; and
- (k) conduct other University affairs not assigned to any person in particular.

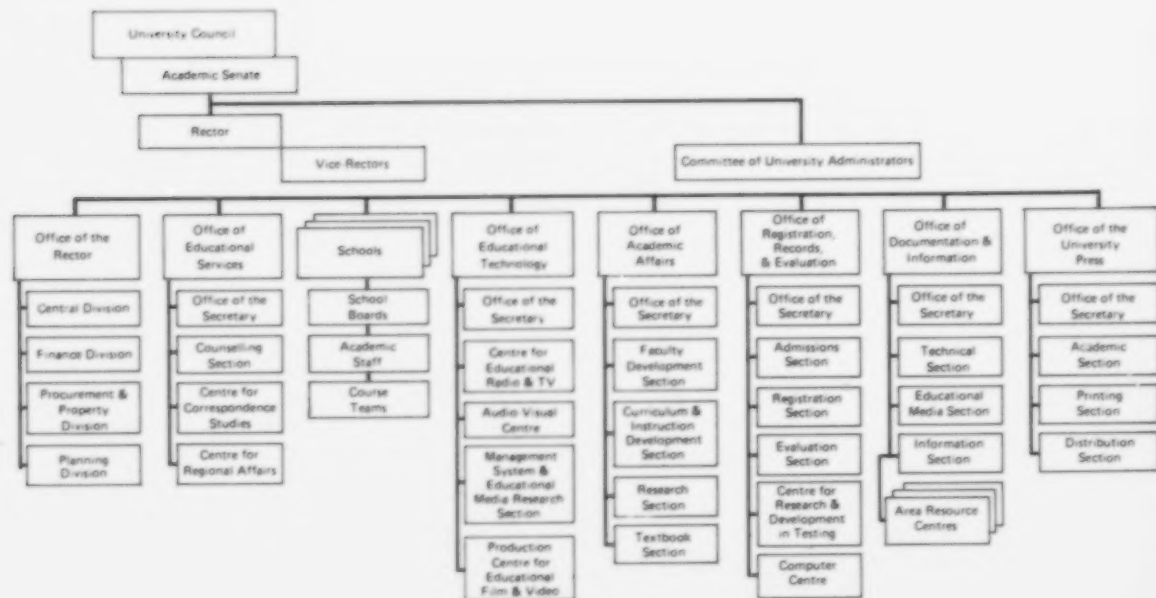
The University Council, chaired by a President to be appointed by Royal Decree, comprises the Permanent Secretary for University Affairs or his representative, the Director-General of the Public Relations Department or his representative, the Director-General of the Post and Telegraph Department or his representative, the Director of the Mass Communications Authority of Thailand or his representative, the President of the Communications Authority of Thailand or his representative, the Rector, a representative of the Academic Senate, and 4 to 9 qualified members to be drawn from various external bodies and appointed by Royal Decree.

The Academic Senate: Being responsible for the academic affairs of the University, the Academic Senate has the authority and duty to:

- (a) set academic standards and supervise all matters connected with curricula, instruction and evaluation;
- (b) propose the awarding of degrees, diplomas and certificates;
- (c) propose the establishment, dissolution, and amalgamation of any institute, office or academic division;
- (d) consider the affiliation of other institutes of higher education;
- (e) propose the appointment of a number of qualified persons from various external bodies as members of the University Council;
- (f) give advice on the appointment or dismissal of Professors, Associate Professors and Assistant Professors;
- (g) find ways and means to develop the teaching, research and other educational services of the University;
- (h) advise the University Council on academic affairs; and
- (i) appoint ad hoc committees for specific academic tasks.

The Academic Senate, chaired by the Rector, comprises Chairmen of Schools, Directors of Institutes, Directors of Offices and Professors,

Fig 2 ADMINISTRATIVE STRUCTURE OF THE UNIVERSITY



all of them being ex-officio members. There are also a number of members, each of whom is elected by the full-time staff of a given school.

Other organizational components of Sukhothai Thammathirat Open University are as follows:

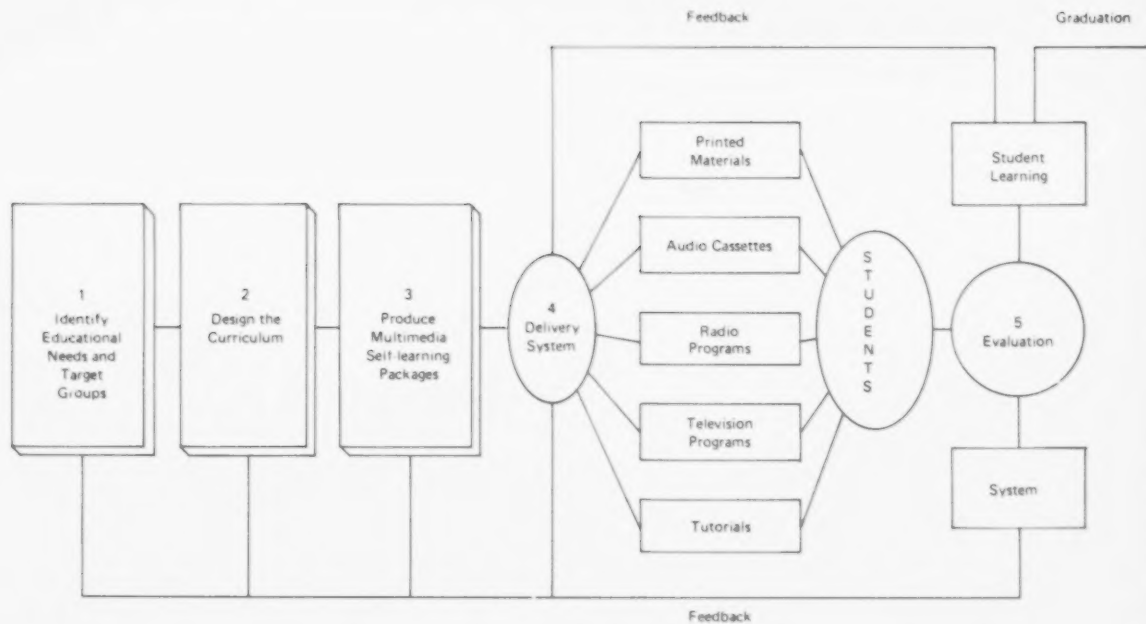
- (a) Office of the Rector, which is responsible for correspondence, finance and supplies, personnel and general administration;
- (b) Office of Educational Services, which is in charge of the administration and coordination of regional and local study centers, and the provision of tutorial and counselling services;
- (c) Office of Academic Affairs, which is responsible for all matters connected with curricula, instruction, research, textbooks, the preparation of instructional materials and other educational services;
- (d) Office of Educational Technology, which is responsible for the production of instructional materials, the provision of radio and television services, and also for audiovisual services, conducting research and evaluating methods of instruction;
- (e) Office of Registration, Records and Evaluation, which is responsible for student records, admission and academic achievement records;
- (f) Office of the University Press, which is responsible for the various types of printing operations of the University; and
- (g) Office of Documentation and Information, which is responsible for the provision of library services and educational materials, and acts as a resource center for both students and University staff.

The Distance Teaching System: The teaching system developed at Sukhothai Thammathirat Open University is a case of the development of a distance teaching system employing a mixed and integrated media approach suitable for the conditions of a developing country. The "STOU Plan" for a Distance Teaching System, which is composed of five stages, can be concisely illustrated in Fig. 3.

The first stage in the development of the distance teaching system involves identifying the educational needs of the target groups through preliminary surveys and research.

The second stage is curriculum development. The structure of the curriculum must be set up in such a way as to facilitate the use of distance teaching techniques. The academic structure in the "STOU Plan" is based on the principle of course integration. It is thus primarily of an interdisciplinary nature.

Fig. 3: 'STOU PLAN' DISTANCE TEACHING SYSTEM



The third stage involves selecting and producing the teaching media approach based on the following five criteria: availability, accessibility, acceptability, validity and economy. Printed materials are the main or core medium. Audiocassette and videotapes, radio and television programs, and special tutorial sessions are the supplementary media.

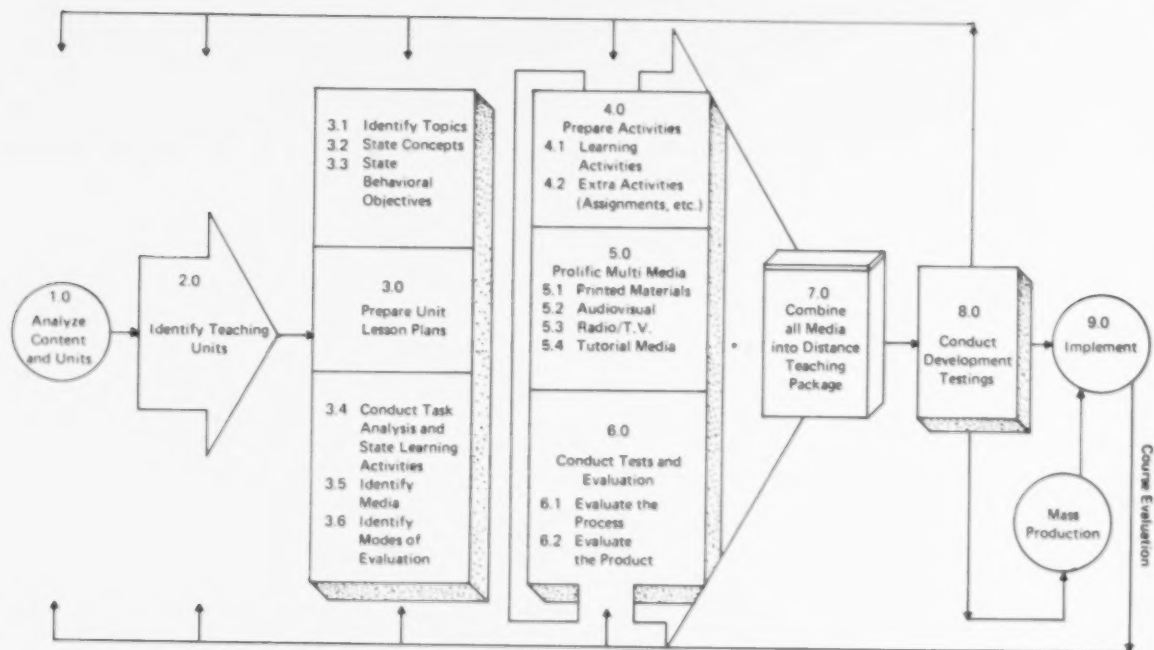
In producing teaching media packages according to the "STOU Plan" the first step is the production of the printed texts and workbooks. Then, selected portions of the texts are used as the basis for tapes, radio and TV programs, and tutorial session workbooks. These latter media are considered as supplements to the printed materials, the core medium. The completed teaching package is thus in the form of a multimedia self-learning package.

The fourth stage involves establishing delivery systems in order to communicate knowledge to the students. The printed materials and accompanying tapes are sent by mail to the student's home, and radio and TV programs are aired at the same time throughout the country. The tutorial sessions are held on weekends at local study centers located in each province. The distance education system established according to the "STOU Plan" is thus in the nature of home-based education.

The fifth stage consists of evaluation and follow up, which is of two types. The first is evaluation of student learning by final examinations held each semester at local study centers. A student must sit for the examinations at the study center to which he has been assigned, and the examinations are held at the same time throughout the country. The second type of evaluation is system evaluation, which is conducted in order to obtain feedback that can be used to improve the effectiveness of the curriculum and the teaching/learning process.

It should be noted that STOU printed course materials are produced not by single academics but by course teams, each of which comprises some seven outstanding content specialists, one educational technologist and one evaluation specialist. Apart from these content specialists who also serve as course writers, there are also a varying number of course writers who are not course team members. Some writers are full-time staff of the relevant school; others are drawn from various universities and agencies, including some from the private sector. Great efforts have been made to structure the University's distance teaching media to enable the student to study actively by himself unaided and so produced as to render additional oral explanation or comment almost unnecessary. Fig. 4 illustrates STOU's production system of distance media.

Fig. 4. DISTANCE MEDIA PRODUCTION SYSTEM



FACTORS FOR CONSIDERATION IN THAILAND'S DISTANCE HIGHER EDUCATION

The Case for Distance Teaching in Higher Education

In Thailand, the shortage of university places was always a major problem before the establishment of STOU in 1978. Each year institutions of higher education have been asked to improve their capacity to admit a greater number of students. The dramatic rate of increase in the number of secondary school graduates in the last decade, however, prevented them from undertaking further expansion to accommodate more and more students. At the same time, opportunities for on-the-job higher education and training were also rather limited. In a period of increasing economic stringency rendering great improvements and large-scale expansion impossible, the distance teaching system was seen as an effective and economical means of broadening opportunities for a university education and further training.

The Planning Stage

Determined to come to grips with the problem of inadequate access to higher education and the lack of appropriate in-service professional enrichment, the Thai Government gave its earnest support to the attempts of the Office of University Affairs, now with ministry status, to find ways and means of meeting such needs. In 1976 the Office of University Affairs appointed a Planning Committee chaired by Professor Dr. Wichit Srisa-an to formulate an open university project.

To dispel doubts and to ensure the success of the project, the Planning Committee undertook the following tasks as precautionary measures: a survey of the educational needs of the general public; tests with the academics of various universities to verify the efficacy of the distance teaching techniques, a background study on existing distance teaching universities in various countries; and a survey of existing infrastructures compatible, conceptually and essentially, with such an innovation as distance education. After three years of careful analysis of data and deliberation, the Planning Committee submitted the project to the Government and the Open University was finally created by Royal Charter on 5 September 1978.

The Search for an Appropriate Distance Teaching System

During the planning stage, attempts were made to find a satisfactory blueprint or a successful precedent to follow. After extensive study on the achievements and experience of existing open universities in

various regions of the world, the conclusion was reached that no existing model of distance education could be adopted or imitated and that a distinctive distance teaching system should be so devised as to be well-suited to the particular socioeconomic environment of the country. In a developing country like Thailand, mass communications are not advanced enough, nor are they extended to all areas of the country. As a result, and for economic reasons, broadcast media have not been adopted on a large scale as the main teaching media. Rather, emphasis has been placed on printed course materials which are more readily accessible thanks to the existing efficient postal service.

According to STOU's distance teaching system, the student is expected to study for each course from 15 to 18 hours a week or about 180 hours per semester. Some 12 hours are spent on reading the printed text, the rest being devoted to listening to weekly 20-minute radio programs, watching three to five 20-minute television programs, and attending face-to-face tutorial sessions at a designated local study center, once every four or five weeks on weekends, totalling some ten to 15 hours per course.

Issues Relating to Adaptability

Integrating printed media and broadcast or electronic media into higher education is already a difficult process. To make the self-learning package academically effective and individually suitable for large numbers of students is naturally even more challenging and can present a rather complex problem. Since the student population of such an open university as STOU is inevitably diverse in age, background, lifestyle, motivation, maturity and intelligence, the same teaching mode may eventually yield different results.

A related issue concerns the attitudes of secondary school leavers and working adults toward the innovative aspect of distance teaching and learning. At first, few would find distance education much to their liking, since they have been accustomed to face-to-face instruction all along and distance education seems to demand a certain degree of self-discipline and adaptability to the new teaching and learning environments. Time has soon proved that working adults have welcomed distance education as a convenient teaching system enabling them to have easier access to a university education and enhance their professional competence without interrupting their normal occupations. School leavers, however, still constitute less than 10 per cent of the total number of new enrollments each year. This is probably due to the latter group's preference for a traditional teaching system with classrooms and lively campus activities.

STOU has attempted to reduce the isolation of the student and make independent study at a distance more attractive by supplementing it with some provisions for student/staff interaction in face-to-face tutorial sessions at local and regional study centers.

Issues Relating to Quality and Standards

Because of its novelty, distance higher education was initially regarded as rather unconventional. Thanks to the foresight and circumspection of the Planning Committee, STOU has managed to avoid running the risk of turning out graduates of doubtful quality by involving in virtually all its academic activities outstanding academics of other state universities and specialized staff generally recognized as leaders in their respective professional circles. Having served in various capacities as curriculum developers, course material producers, tutors and examiners, they have thus participated in bringing about high-quality instruction. After three batches of some 38,000 graduates, the University can take pride that its academic standards have been readily accepted and recognized by academics of all the conventional universities and various organizations in both public and private sectors. Although the University has succeeded in dispelling doubts and achieved respectability within the academic community, there have been ongoing efforts to continue to search for ways to improve the quality of the instruction imparted and to make distance education more interactive than what is possible through face-to-face tutorial sessions. Some progress has also been made in the development of high quality computer courseware for instructional purposes, but much remains to be done.

What has also been undertaken from the outset has been the accreditation process with various governmental and professional accrediting agencies. In fact, STOU's degrees were officially recognized even before the graduation of the first batch of students. Another factor that has greatly contributed to an increase in the public's recognition of the University's academic quality is the extensive use of its printed texts by students, both undergraduates and graduates, of various conventional universities. Hence, in addition to helping overcome the deficiency in Thai-language textbooks, STOU has also played a significant role in the production of high-standard course materials for nationwide use.

Issues Relating to Wastage and Surplus

At the initial stage of operations, most open universities may have to face the problem of striking a balance between demands for broader educational opportunities and manpower requirements so as to avoid

wastage through a high dropout rate and surplus of graduates. Some critics may point out that the wastage rate in open universities is higher than that in conventional universities. As the establishment of STOU, the youngest of the Thai universities and Southeast Asia's first distance teaching and open university, can be considered a major step in the democratization of education in Thailand, the price of wastage, if so considered economically, is still worth paying, even without concrete academic achievements being attained by those who have dropped out. On the other hand, according to past trends of enrollments of STOU's students, the problem of over-production of graduates likely to aggravate the existing graduate unemployment situation is unlikely to be a course of great concern, since each year fewer than 10 per cent of the enrolled students are fresh secondary school leavers, the rest being working adults. Should there be an increase in graduate unemployment because of the extension of higher educational opportunities through distance education, the problem is likely to be relatively slight.

Through its use of distance education techniques, STOU is in a better position than conventional universities to provide equal access to higher education and in-service professional training for people in all walks of life as an extension of the Thai Government's policy of democratization of education. Aware of the importance and desirability of enabling people throughout the country to develop their skills and gain the kind of knowledge essential for their professional competence, STOU offers each year a number of courses selected from various degree programs, to whoever wants to participate in its Continuing Education Program regardless of age, sex, background, qualification or profession. STOU has made special efforts to serve the disadvantaged and underprivileged groups with low levels of prior education or with such physical handicaps as blindness and partial paralysis. With currently available electronic media, the University has the capacity to reach older adults, homebound and handicapped persons and workers in their homes and workplaces in ways that enhance convenience and reduce discomfort. Determined to serve these groups, STOU is prepared to fund the adjustment of its distance teaching system to their needs by providing, for instance, special audiotape materials for the blind and handicapped students.

Some Strengths of Distance Higher Education in Thailand

In a developing country like Thailand where resources are limited, distance education is a relatively effective and economical system of extending educational and training opportunities to large numbers of people. Working adults, in particular, can have access to degree-level

studies and further training without interrupting their normal domestic or professional routines. STOU has effectively broadened opportunities for higher education on an egalitarian basis by making university education accessible to older adults, homebound and handicapped people, rural population and even to the country's convicts.

STOU's distance teaching system has made possible the extension of educational and training resources to urban and rural populations conveniently and economically.

The University's use of distance teaching system enables its students to study printed course materials, view television programs and videotapes and listen to radio broadcasts and audiotapes, either alone or with groups of selected peers. Adult students, in particular, would feel more comfortable with distance education than with traditional classroom education in the midst of younger people of different backgrounds.

Some Weaknesses of Distance Higher Education

Distance education is an innovation which Thai adults and young high-school graduates may need some time to get used to and appreciate. Having been accustomed, since their childhood, to face-to-face teaching, they have to make special efforts to observe a great degree of self-discipline in their independent studies. The fresh secondary school-leavers, in particular, would probably find it too abrupt and rather difficult to adapt themselves to this new mode of teaching. The relatively small number of high-school graduates enrolled each year seems to indicate that the non-working young people would rather participate in institution-based educational programs than learn in their home environments.

Because of economic and geographical constraints, a number of home-based students are not exposed to such media as television broadcasts and videocassettes. Others who have easy access to all STOU's integrated media, especially the younger group, may prefer the structure of the traditional classroom with its teaching staff and peer interaction to studying the University's learning package on their own. This would also apply to a number of working adults with lower levels of previous educational attainment for whom a greater degree of face-to-face contact is still needed.

Although students can have access to some 10-15 hours of face-to-face tutorials per course per semester, which are also beginning to be supplemented by videocassettes, it is not possible for them to ask questions from instructors and obtain answers during their study at home. Greater opportunities for interaction with teaching staff and

peers should therefore be provided to allow discussions to be held, questions to be asked and immediate feedback to be obtained.

THE MANAGEMENT AND ECONOMICS OF DISTANCE HIGHER EDUCATION IN THAILAND

The Management of Distance Higher Education

The management of distance education at STOU can be conceptualized as consisting of the following systems: admission and registration, production, delivery, instruction, examination and administration. Table 8 illustrates system functions and support units to carry out the respective functions.

Admission and Registration System

STOU admits students once a year. Prospective students fill in application forms and mail them to the University. Enclosed together with their applications are postal money orders for tuition fees and course materials. Those who meet admission requirements are admitted without entrance examination.

Production System

STOU courses are so arranged as to provide an integrated study of interrelated subjects. Each course is worth six credits. A student must take at least one course but not more than three courses. The number of new courses produced for each semester is presented in Table 9.

To produce course materials, STOU uses a team approach by setting up a course team. As of 1985, STOU had appointed 243 such course teams to produce course materials. Course team members may be assigned additional tasks as editor or secretary. Experts from outside organizations and staff members of other universities whose academic achievements are outstanding are invited to be course team members and co-writers. About 1,000 qualified outsiders have served as course producers. STOU organizes an intensive workshop for them before they start writing course materials.

There are two important components in the infrastructure of the production system: one is the Educational Broadcasting Production Center and the other is the Office of the University Press.

The Educational Broadcasting Production Center, donated by the Government of Japan, is equipped with modern production equipment. The Center comprises three television program production studios and

Table 8: System Functions and Support Units

Admission and Registration System	Office of Registration, Records and Evaluation - admitting students - registration - record keeping
Production System	Office of Academic Affairs - preparing manuscripts for course teams - providing training for outside writers - organizing workshops for course writers Office of Educational Technology - producing radio programs - producing television programs - preparing films, audiotapes and videotapes Office of the University Press - printing textbooks and workbooks - printing examination papers
Instruction System	Office of Educational Services - organizing tutorials - coordinating study centers - providing counselling and guidance - coordinating student clubs and associations Office of Academic Affairs - organizing professional experience workshops - organizing enrichment programs for graduates Office of Information and Documentation - sending materials to STOU corners - providing library services to students - coordinating resource centers
Examination System	Office of Registration, Records and Evaluation - supervising exams - developing test instruments - organizing workshops for exam writers
Administration System	Office of the Rector - records keeping - public relations - finance - personnel - planning and development - materials and supplies

Table 9: Number of New Courses Produced Between 1980-1985

Academic Year	1st Semester	2nd Semester	Total
1980-1981	9	12	21
1982	22	30	52
1983	23	33	56
1984	29	35	64
1985	21	29	50
Total	104	139	243

Table 10: Quantities of Materials Mailed to Students, 1985

Types of Materials	1st Semester	2nd Semester
1. Registration materials	157,945	180,164 (copies)
2. Examination handbooks	293,441	257,462 (copies)
3. Broadcasting schedules	213,488	184,770 (copies)
4. Newsletters	1,116,051	1,067,252 (copies)
5. Instructional materials	366,975	280,564 (packages)

Table 11: Radio and Television Broadcasts

Type of Program	Duration of Program	Number of Broadcasts
Radio	20 minutes	150 programs per week (7,800 per year)
Television	30 minutes	3 programs per day (1,100 per year)

six radio program production studios together with a wide variety of other useful facilities. It is capable of producing approximately 10,000 radio programs and 2,000 television programs per year.

As shown in Table 8, three offices are responsible for course production: the Office of Academic Affairs, the Office of Educational Technology and the Office of the University Press. The management of the production system requires a great deal of planning and coordination among these three offices.

Delivery System

STOU students, who are distributed throughout the country, receive all instructional materials by mail. As shown in Table 10, a large quantity of printed material is mailed to students each semester.

Table 10 shows only the major items; other materials such as application forms and information booklets are also sent by mail. STOU works closely with the Communications Authority of Thailand, which has set up a special unit to handle STOU's materials exclusively. Successful operation of the delivery system requires planning, communication, coordination and cooperation.

The Office of Educational Services is in charge of the delivery system. The University has built its own warehouse which, completed in 1986, is an important component in the infrastructure for effective management of the delivery system.

Instruction System

Article 6 of the Sukhothai Thammathirat Open University Act B.E.2521 (1978) prescribes the methods of instruction as follows:

"The education provided by the University shall be given through correspondence, radio and television broadcasting or other media which will enable students to learn by themselves without having to attend classes."

Since the management of the instruction system is quite complex and involves many outside agencies, careful planning, communication and coordination are needed for effective operation. The University responds to this challenge in the following ways:

1. Main Media

The University mails all self-instructional course materials to its students as soon as they register.

2. Support Media: Radio and Television Broadcasts

STOU broadcasts radio and television programs daily. As shown in Table 11 over 150 radio programs of 20 minutes' duration are broadcast weekly, totalling approximately 7,800 radio programs per year. As for the television programs, the University has permission from the Government to broadcast three programs daily from 1800-1930. About 1,100 television programs are broadcast per year.

3. Tutorials

Tutorials are organized to provide face-to-face interaction with students. To make tutorial sessions flexible and accessible to distance learners, the University has instituted the following procedure:

- (a) organizes tutorials on Saturdays and Sundays;
- (b) makes tutorials optional to students rather than compulsory;
- (c) holds tutorials at local study centers close to students; and
- (d) selects appropriate courses for tutorials and holds the sessions for about 10-15 hours per course per semester.

At present tutorial sessions are held for about 30 per cent of the courses, and about 30 per cent of the students attend these sessions. The sessions are organized at regional, local and special study centers as illustrated in Table 12. Regional universities serve as regional centers. Local study centers are located in secondary schools in the provinces. These provide facilities for tutorials and also for examinations. Regional study centers help the University select local tutors in the regions.

4. Practical Work

It should be noted that in Table 12 there are special study centers for the School of Agricultural Extension and Cooperatives and the School of Health Science. These special study centers serve as places for special tutorials and practical work. The University seeks cooperation from the Ministry of Agriculture and Cooperatives and the Ministry of Public Health to establish these centers. Cooperation has also been obtained from the Ministry of Public Health to use hospitals and health centers to allow STOU students in the nursing program of the School of Health Science to gain practical experience at their own place of employment.

Table 12: Regional, Local and Special Study Centers

Regions	Regional Centers	Local Study Centers	Special Study Centers		
			Library Corners	Agricultural Extension and Cooperative Center	Health Science Centers
Bangkok Metropolis	3	-	3	1	5
Central Region	1	9	9	1	3
Northern Region	2	15	16	1	5
North-eastern Region	2	16	17	1	4
Eastern Region	1	7	8	1	2
Western Region	1	7	8	1	-
Southern Region	2	12	14	1	3
Total	11	66	75	7	22

5. Guidance and Counselling

The University uses a variety of means to provide guidance and counselling to distance learners. Staff members of local study centers who work for STOU on a part-time basis provide guidance to students who come to the centers. Group counselling is also encouraged. A half-hour meeting, normally between 0830-0900 before the start of the tutorial session, is conducted by STOU staff. In June 1985, the University organized a seminar on "Roles and Duties of Student Clubs" for the first time. About 80 students from 31 student clubs throughout the country attended the seminar at STOU headquarters. Student Clubs are expected to play active roles in guidance, counselling and peer group teaching.

6. Library Services

The University seeks cooperation from the Department of Non-Formal Education, Ministry of Education, to use public libraries throughout the country as STOU Corners. Educational materials produced by the University and additional reading materials are deposited at STOU Corners so that students can come for additional study. As illustrated in Table 12 there are 75 STOU Corners throughout the country.

Examination System

STOU organizes final examinations in every province every semester. Those who fail have a chance to take examinations again. In the first semester of the academic year 1986, STOU organized examinations in 100 centers throughout the country – 20 in Bangkok and 80 in the provinces. Normally regional and local study centers serve as examination centers.

The examinations, like the tutorials, are held on weekends. STOU staff bring examination papers to examination centers, and staff members of local schools and universities serve as invigilators. As shown in Table 13, STOU's examination system requires a large number of facilities and invigilators. During an examination day, about 5,000 local staff members are working as invigilators. This requires a great deal of coordination.

**Table 13: Number of Examination Rooms and Invigilators
(First Semester 1986)**

	Saturday		Sunday	
	0900–1200	1300–1500	0900–1200	1300–1500
Number of Examination Rooms	2,456	2,744	3,373	3,275
Number of Invigilators	4,914	5,488	6,756	6,550

Administration System

The general administration of the University includes planning, budgeting and finance. Some significant features in the administration of distance education are as follows:

- (a) All decision-making is collective. A team approach is employed in the management of the University;
- (b) As the distance education system requires a great deal of planning and cooperation, the University puts a great deal of effort into preparing the annual operational plan. A two-day intensive workshop on operational planning is organized, and administrators from all offices and departments of the University, together with members of the Academic Senate, attend the workshop to map out the annual plan; and

- (c) A Planning-Programming-Budgeting-System (PPBS) has been initiated in order to ensure efficient allocation of resources for distance education.⁷

The Economics of Distance Higher Education

When the costs of distance higher education are examined, three types of cost need to be considered: (a) the cost to the institution, (b) the cost to individuals, and (c) the cost to society.

1. Institutional Costs: Budget

(a) Institutional Costs from Government

Generally Thai state-run universities receive about 90 per cent of their expenditure from the Government. STOU received only 0.5 per cent of the total higher education budget in 1980. In 1985, this figure had risen to 1.3 per cent.

Table 14: Government Budget Allocated to STOU Compared with Total Higher Education, 1980-1985

Budget Year	Total Higher Education Budget (Baht)	Budget Allocated to STOU (Baht)	%
1980	3,475,909,500	17,731,800	0.5
1981	4,019,747,300	46,857,900	1.2
1982	4,453,835,850	55,037,800	1.2
1983	5,068,237,620	69,647,800	1.4
1984	5,215,200,000	89,573,700	1.7
1985	5,419,621,000	68,136,000	1.3

1 US\$ = B27.00

(b) Institutional Costs from University Revenue

In addition to the budget drawn from the Government, STOU uses its own revenue for the operation of the University. Total expenditure

⁷ This section of the Country Case Study is based on "The Management and Economics of Distance Education: The Case of Sukhothai Thammathirat Open University", Wichit Srisa-an and Tong-in Wangsotorn, in *Distance Education*, Nonthaburi, Sukhothai Thammathirat Open University, 1986, pp. 107-133.

from the two sources – government budget and university revenue – is presented below. From this table it can be seen that on average about 75 per cent of the total expenditure is from STOU's own revenue.

Table 15: STOU Total Expenditure from Government Budget and University Revenue, 1980–1985

Budget Year	Government		University Revenue	
	Amount (Baht)	%	Amount (Baht)	%
1980	17,731,800	32.07	37,558,000	69.93
1981	46,857,900	30.76	105,840,000	69.24
1982	55,037,800	24.57	168,931,000	75.43
1983	69,647,800	21.10	260,400,000	78.90
1984	89,573,700	22.72	304,600,000	77.28
1985	68,138,600	18.32	303,808,460	81.60

1 US\$ = B27.00

(c) Institutional Cost Per Head

Operating costs per head of restricted-admission universities and open universities are presented above. From this table it can be seen that open universities have a much lower average cost. It should be noted that the two open universities in the table are STOU and Ramkhamhaeng University, which is an open-admission university.

It should be noted that these figures represent only operating costs. Investment costs such as those for building programs, equipment, and other elements of the infrastructure are not included. This table demonstrates the economical effect of large-scale operations. The large number of students in the open universities helps to reduce the average cost.

A comparison of operating costs per head in the same discipline is provided in Table 17. It can be seen from this table that the average cost per head per year in the same discipline is much greater in restricted-admission universities. The comparison between the two types of system in each discipline shows that the cost in the case of the open universities varies from 2.13 per cent in Humanities to 11.35 percent in Business Administration.

Table 16: Operating Cost Per Head From Government Budget and University Revenue of Restricted-Admission and Open University by Disciplines (1980)

Disciplines	Per Head
Restricted-Admission Universities	
1. Medical Science and Public Health	61,810.87
2. Agriculture, Forestry and Fishery	36,718.37
3. Fine Arts and Applied Arts	28,920.36
4. Architecture and Regional Planning	22,111.73
5. Education and Teacher Training	20,507.39
6. Engineering	20,306.83
7. Natural Science	19,778.15
8. Mass Communications and Documentation	18,308.84
9. Mathematics and Computer Science	16,633.22
10. Others	15,208.63
11. Business Administration and Commerce	14,942.07
12. Humanities	14,332.56
13. Social-Behavioral Science	13,435.97
14. Law	11,970.81
Open Universities	
1. Business Administration and Commerce	1,695.95
2. Natural Science	972.72
3. Education and Teacher Training	638.08
4. Social-Behavioral Science	591.84
5. Law	461.34
6. Humanities	305.36

Source: Ministry of University Affairs, *Research Report on Operating Cost Per Head*, Fiscal Year 1980 (Bangkok 1984), Table 4, p. 25.

2. Private Costs

Personal costs to be borne by students are as follows:

(a) Expenses for tuition fees and study materials

Expenses for fees and study materials charged by University are:

(i) Admission fees	Baht 150
(Single payment on entering)	
(ii) University fees per semester	150
(iii) Tuition fees per course	200
(iv) Educational materials per course	200

Table 17: Comparison of Operating Costs Per Head between Restricted Admission Universities and Open Universities, 1980

Discipline	Type of University		%
	Selective (Baht)	Open (Baht)	
1. Business Administration and Commerce	14,942.07	1,695.95	11.35
2. Natural Science	19,778.15	972.72	4.91
3. Education and Teacher Education	20,507.39	638.08	3.11
4. Social-Behavioral Science	13,435.97	591.84	4.40
5. Law	11,970.81	461.34	3.85
6. Humanities	14,332.56	305.36	2.13

Educational materials include textbooks, workbooks and recorded cassette tapes. All of these materials are mailed to students' homes. An average student takes two courses per semester. The full load for students is three courses. If a student in the two-year program takes three courses per semester and passes all courses, he will take two years to obtain his bachelor's degree. His expenditure may be as presented in Table 18.

From the table it can be seen that a student who takes a full load and passes all final examinations spends a total of B5,500 on tuition fees and materials throughout the program. The average income of students in 1984 was about B3,500 per month. The student thus spends about 6.6 per cent ($5,550 : 3,500 \times 24$) of his income on University expenses.

(b) Personal Expenses

Personal expenses are composed of the following:

- (i) Travel expenses for tutorial sessions, final examinations; and intensive workshops and training.
- (ii) Other expenses, such as costs of make-up examinations and sending letters and requests to the University.

Table 18: Student Expenditure on Fees and Materials in the Two-Year Program

Unit = Baht (฿)

Types of Expenditures	1st Year		2nd Year	
	First Semester	Second Semester	First Semester	Second Semester
1. Admission Fees	฿150 (\$ 5.6)	—	—	—
2. University Fees	฿150 (\$ 5.6)	฿150 (\$ 5.6)	฿150 (\$ 5.6)	฿150 (\$ 5.6)
3. University Fees (3 courses)	฿600 (\$22.2)	฿600 (\$22.2)	฿600 (\$22.2)	฿600 (\$22.2)
4. Educational Materials (3 courses)	฿600 (\$22.2)	฿600 (\$22.2)	฿600 (\$22.2)	฿600 (\$22.2)
Total	฿1,500 (\$55.6)	฿1,350 (\$50)	฿1,350 (\$50)	฿1,350 (\$50)

All totals = ฿5,550 (\$ 205.6)

3. Opportunity Costs

There are no opportunity costs or foregone earnings. STOU students are generally in full employment and contributing to the economy of the country. In fact, STOU has helped to reduce social costs. For example, in 1985 there were some 90 convicts enrolled with STOU. With the cooperation of the Department of Corrections of the Ministry of the Interior, the University provides distance education to these people. Graduates of this program are expected to function as good citizens on their eventual release, and thus the program will be of real benefit to society.

From STOU's experience, it appears that the cost of providing distance education is less than in restricted-admission universities. The economy of scale helps to reduce the average institutional cost. Costs to society are also less, as taxpayers contribute only 20 per cent of the total institutional costs. Also, students themselves are adult workers and

therefore do not forego their income. Costs to the students themselves are less because they study at home.

FUTURE PLANS AND CONCLUSIONS

Master's Degree Courses

STOU has established its reputation, since its foundation in 1978, as a distance education university awarding accredited bachelor's degrees; it is now approaching the point in its development where it may take the next step: that of expanding its courses to include those leading to the award of master's degrees. Planning is now in progress with regard to the subject areas and course content. The first master's degree courses are expected to be offered by the School of Educational Studies. The first graduates are expected to receive their master's degrees in 1989.

Doctorate Level Courses

The logical culmination of the development of STOU as a full-fledged university will of course be the provision of courses and research facilities leading to the awarding of doctorates. This stage still lies in the future and will depend on the availability of highly-qualified academic staff. To this end the University offers a number of scholarships every year to members of the academic staff, who are selected according to their performance in a competitive examination, to take sabbatical leave in order to acquire higher degrees, normally in North America, Europe and Australia. It is expected that this steady process of upgrading the qualifications of the academic staff will result in a high proportion of persons with doctorates who will be capable of acting as supervisors for future doctoral candidates.

Expansion of Resources and Services

The University's resources will be progressively strengthened by the consolidation of its existing facilities, the revision and improvement of its multimedia materials and the recruitment of additional qualified personnel. The University recently completed construction of its own large University Press building, which is now in service. A major project for the immediate future is the setting up of three Area Resource

Centers in the large provincial towns of Nakhon Sawan, Nakhon Rajasima and Nakhon Si Thammarat. TV broadcasting is expected to expand with the bringing into service of the projected Government-run TV Channel 11, which will be dedicated to educational and information purposes. STOU hopes to be allocated a significant proportion of this Channel's broadcasting time for its programs, which at present have to be transmitted on the commercially-operated Channel 9.

Cooperative Projects

STOU is currently negotiating a number of cooperative projects with overseas organizations with a view to expanding its range of resources and improving the quality of its services. These include:

A contract with the British Broadcasting Corporation to acquire a set of BBC-produced English language TV programs, which will be broadcast in STOU's allocated transmitting times to a nationwide audience. This project is part of the University's commitment to provide programs of a general non-specialized educational nature to the general public, and acknowledges the fact that an estimated six million people throughout the country are regular viewers of STOU's TV programs.

A cooperative project with the University of Guelph in Canada to set up a videotext network would link the local and area resource centers throughout the country with the University's headquarters. This would represent a significant expansion of the range of instructional resources available to students throughout the provinces. The cooperative project with the University of Guelph also provides for personnel visits between the two universities, cooperative research, especially in the areas of non-traditional educational delivery systems, and the application of communication technology, post-graduate degree training, the exchange of educational and scientific material, and general wide institutional cooperation in areas of academic interest.

An agreement with the University of Akron in Ohio, USA, to implement a project to develop computer-assisted instruction leading to the eventual installation of a CBE (computer-based education) system, for use by STOU. The project aims, over a two-year period beginning in 1986, to adapt the University of Akron's courseware to STOU's needs and to train STOU staff in using it. The CBE hardware and software will be installed in the local study centers throughout the country and will provide an important contribution to STOU's existing multimedia technological resources. In parallel with the project to develop a CBE instructional package, the cooperative proposal with the University of Akron includes a scheme for the provision of hardware and software for

general administrative purposes at STOU. The benefits of CBE for the learner are that it provides an individualized instructional system in which he interacts with the computer and receives immediate feedback and positive reinforcement. The system allows for a range of choices such as tests and drills, and is response-sensitive, being capable of analyzing answers. Learning by CBE is self-paced and private, and in addition to increasing the learner's achievement level, provides him with a degree of computer literacy. The advantages to STOU itself of using CBE will be that the curriculum will be greatly enhanced due to the expanded range of learning opportunities offered to the students, providing more flexibility in the presentation of subject matter and leading to the possibility of incorporating higher levels of objectives. The system also lends itself to data collection and research, and is expected to give a considerable boost to the effectiveness of STOU's distance-teaching techniques. However, it is essential that there be considerable orientation to the system, that students not be discouraged by hardware and software problems and that software be flexible enough to adapt to a wide range of students.

From the beginning STOU has intended to reach out to the Thai community at large in the remotest areas. Thanks to its distance teaching system, STOU finds itself in comfortable position to serve and cooperate with various organizations, both public and private, in setting up relevant personnel development programs. Distance education has made possible the cooperative projects with such governmental departments and private concerns as:

- (i) the Police Department in establishing a law degree program for non-commissioned police officers seeking promotion to the rank of commissioned police officer;
- (ii) the Department of Lands in providing staff development for those without a degree so that they might have a better knowledge of land and property law;
- (iii) the Department of Local Administration in establishing an in-service training and education program for the Department staff as well as for subdistrict and village-level health officers and administrators, as well as their wives and others involved in local administrative work, in order to increase their knowledge and work capability and improve their leadership capacity for effective local rural development;
- (iv) the Office of the National Committee on Elementary Education in developing elementary school administrators throughout the country;

- (v) the Department of Non-Formal Education in enriching provincial libraries throughout the country with STOU publications and other educational materials including STOU radio and television programs, recorded on audiocassette tapes and videotapes;
- (vi) the Ministry of Agriculture and Cooperatives in upgrading the qualifications of the Ministry's agricultural extension and cooperative officials;
- (vii) the Bangkok Bank in training the Bank's staff development officers to produce self-instructional texts to be used in personnel development programs at the Bank and in admitting a selected number of Bank employees as associate students to enable them to be promoted or assigned to more attractive positions;
- (viii) the Bank of Agriculture and Cooperatives in providing training to employees of the Bank to improve their professional competence in inspection, financial affairs and loan procedures;
- (ix) the Social Welfare Council of Thailand in providing training to Council members' organizations to develop an organizational structure to create greater efficiency in the performance of their work and in problem-solving; and
- (x) the Office of the National Committee on Culture in providing a Certificate Program for Cultural Studies which aims to encourage staff, in both the public and the private sectors, to develop their knowledge of culture, to perceive the importance of the role of culture in national development and to develop the use of culture in their respective agencies so as to be of benefit to the individual, society and to the nation.

REFERENCE DATA

<i>Country</i>	- KINGDOM OF THAILAND
<i>Area and climate</i>	- 513, 115 sq kms Tropical monsoon climate
<i>Population</i>	- 51.79 million (1985)
Estimated population under 15	- 43% (1985)
Current annual growth rate	- 1.8% (1985)
<i>Government</i>	
Main organizational structure	- Unitary, with delegated administrative responsibilities to 73 provinces
Political type	- Parliamentary democracy Constitutional Monarchy
<i>Economy</i>	
Political type	- Predominantly agricultural with increasing industrialization
	- State control of some key industries
Gross Domestic Product (GDP)	- 378.2 billion baht (US\$14.54 billion)
Per Head	- 12,365.29 baht (618.26 US\$) (1980)
Annual increase in GDP	- 4.1% (1984-1985)
<i>Communications</i>	
Ground/air	- Good countrywide system of roads (total 43,840 km)
	- 3,800 km of rail tracks
	- Relatively quick and easy travel by rail, air and bus services; nationwide domestic air network
Mail/telephone	- Adequate postal services
	- 384,346 telephones (1981)

Appendix A
Page 2

Broadcasting
Main authority

- Communications Authority of Thailand
Government body responsible for supervising/licensing all radio/TV transmissions (also responsible for postal services)

Radio stations
Transmission coverage and percentage of population reached

- Over 270 stations
- The whole country 95% (est.)

Receiving capability for main program services (percentage)

- 90% (est.)

Television stations
Transmission coverage and percentage of population reached

- 9 stations
- 60% of the country

Receiving capability

- approximately 3.5 million TV sets, with increasing number of colour sets

Monochrome or color

- All new transmissions in color

Education

Type of system

- Predominantly State controlled and financed, plus many private schools

Main authorities responsible and powers
At school level

- Ministry of Education: centralized supervision

At post-secondary level

- Ministry of University Affairs: supervision of all State and private universities

End of full-time school attendance
Legal

- compulsory and free from 7 to 14

de facto

- many leave earlier in country areas; large numbers stay till 18, especially in urban areas

Proportion of 18-year-old age group involved in education	- 3.2%
<i>Institutions under study</i> Title and description	- Sukhothai Thammathirat Open University: an open-admission university using multimedia distance education methods
Educational authority and role	- Ministry of University Affairs has overall responsibility
Communications Authority and role	- Communications Authority of Thailand undertakes postal deliveries
	- Government Public Relations Department provides radio broadcasting time
	- TV Channel 9 (commercial) provides broadcasting time
Services provided	- Widens opportunities of university education for adults through multimedia distance education methods, mostly home-based students remaining in employment
(a) categories	- adults over 20
(b) qualifications	- completion of secondary education
Terminal qualifications	- graduate degree (B.A./B.Sc.) diploma certificate
Instructional means used	- Multimedia i.e. printed texts, audio and video-cassettes, radio and TV programs; voluntary attendance at tutorial (supplementary teaching) sessions each semester; provincial resource centers

Appendix A
Page 4

Personal input from student	- Average 12 hours per week 15 weeks per course; 180 hours per semester
Normal duration of study	- 3 courses per semester permitted
Two-year degree program	- Minimum 2 years Maximum 6 years
Three-year degree program	- Minimum 3 years Maximum 9 years
Four-year degree program	- Minimum 4 years Maximum 12 years
Numbers involved	
Intake (1986)	- 62,602
Total number of enrolled students (1986)	- 167,142
Number of students graduating (1985)	- 7,588
Academic Staff	
full-time	- 299
part-time	- over 3,000
Other professional staff	- Administrative: 736

Student Enrollment and Graduation Data
Distribution of New Enrollments by Schools

Schools	1980-81		1982		1983		1984		1985	
	Number	%	Number	%	Number	%	Number	%	Number	%
1. Education Studies	75,334	91.72	10,328	14.85	12,063	24.07	20,421	24.01	15,966	19.14
2. Management Science	6,805	8.28	16,225	23.32	11,163	22.28	23,839	28.03	25,074	30.06
3. Law			29,827	42.88	14,913	29.76	18,792	22.10	16,285	19.52
4. Health Science			3,985	5.73	2,061	4.11	4,401	5.18	4,359	5.23
5. Economics			1,553	2.23	1,932	3.86	2,786	3.28	1,962	2.35
6. Home Economics			2,287	3.29	2,353	4.70	3,006	3.52	4,045	4.85
7. Political Science					3,731	7.45	4,688	5.51	4,383	5.25
8. Agricultural Extension and Cooperatives			5,356	7.70	1,896	3.78	3,006	3.53	4,766	5.71
9. Communication Arts							4,102	4.83	5,721	6.86
10. Liberal Arts									861	1.03
Total	82,139	100.0	69,561	100.0	50,112	100.0	85,041	100.0	83,422	100.0

Distribution of Students by Occupation

Types of Occupation	1980-1981		1982		1983		1984		1985	
	Number	%	Number	%	Number	%	Number	%	Number	%
Government Service	68,984	83.98	48,457	69.66	29,739	59.4	46,978	55.2	42,218	50.6
State Enterprise	942	1.15	5,457	7.84	2,953	5.9	4,787	5.6	5,788	7.0
Private Sector Employment	6,552	7.98	9,659	13.89	7,069	14.1	12,961	15.2	16,045	19.2
Private Business	275	0.33	1,438	2.07	2,183	4.4	3,463	4.1	3,333	4.0
Agriculture	43	0.05	89	0.13	567	1.1	924	1.1	1,598	1.9
Others	57	0.07	932	1.34	1,621	3.2	4,949	5.8	914	1.1
No employment	5,286	6.44	3,529	5.07	4,260	8.5	8,803	10.4	9,698	11.6
No response					1,720	3.4	2,176	2.6	3,828	4.6
Total	82,139	100.0	69,561	100.0	50,112	100.0	85,041	100.0	83,422	100.0

Distribution of New Students by Age

Age	1980-1981		1982		1983		1984		1985	
	Number	%	Number	%	Number	%	Number	%	Number	%
17-22	4,171	5.4	5,849	8.4	10,090	20.1	20,176	23.7	6,968	8.4
23-25	19,626	25.5	13,601	19.6	12,094	24.1	21,812	25.7	35,208	42.2
26-30	27,195	35.4	19,963	28.7	12,292	24.5	21,517	25.3	20,718	24.8
31-35	12,358	16.1	13,982	20.1	6,573	13.1	10,297	12.1	9,626	11.5
36-40	6,946	9.1	8,540	12.3	4,051	8.1	5,650	6.6	5,050	6.1
41-50	4,674	6.1	4,972	7.1	3,090	6.2	4,026	4.7	4,431	4.1
51-60	713	0.9	651	0.9	424	0.9	491	0.6	424	0.5
over 60	73	0.1	66	0.1	22	0.1	45	0.1	47	0.1
No response	974	1.3	1,937	2.8	1,476	2.9	1,027	1.2	1,950	2.3
Total	76,730	100.0	69,561	100.0	50,112	100.0	85,041	100.0	83,422	100.1

EDUCATIONAL STATISTICS (1984)

Appendix B
Pages 4 and 5

A. POPULATION AS OF 1984

	All age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	38,993,000	2,483,000	8,590,000	8,329,000	12,136,000	7,455,000
Male	19,569,000	1,264,000	4,383,000	4,219,000	6,176,000	3,527,000
Female	19,424,000	1,219,000	4,207,000	4,110,000	5,960,000	3,928,000

EDUCATIONAL INSTITUTIONS

Enrollment (1984)				
1. Primary Schools	Number	Boys+ Girls	Capacity	Teachers Trained + Untrained
Total	34,368	7,768,667	226/1	411,949
Rural	1,382	646,730	468/1	34,004
Urban	32,986	7,121,937	216/1	377,945
Enrollment (1984)				
2. Secondary Schools (Grades VI-XII)	Number	Boys+ Girls	Capacity	Teachers Trained + Untrained
Total	2,496	1,859,226	745/1	11,417
Rural	348	321,476	923/1	3,463
Urban	2,148	1,537,750	716/1	7,954

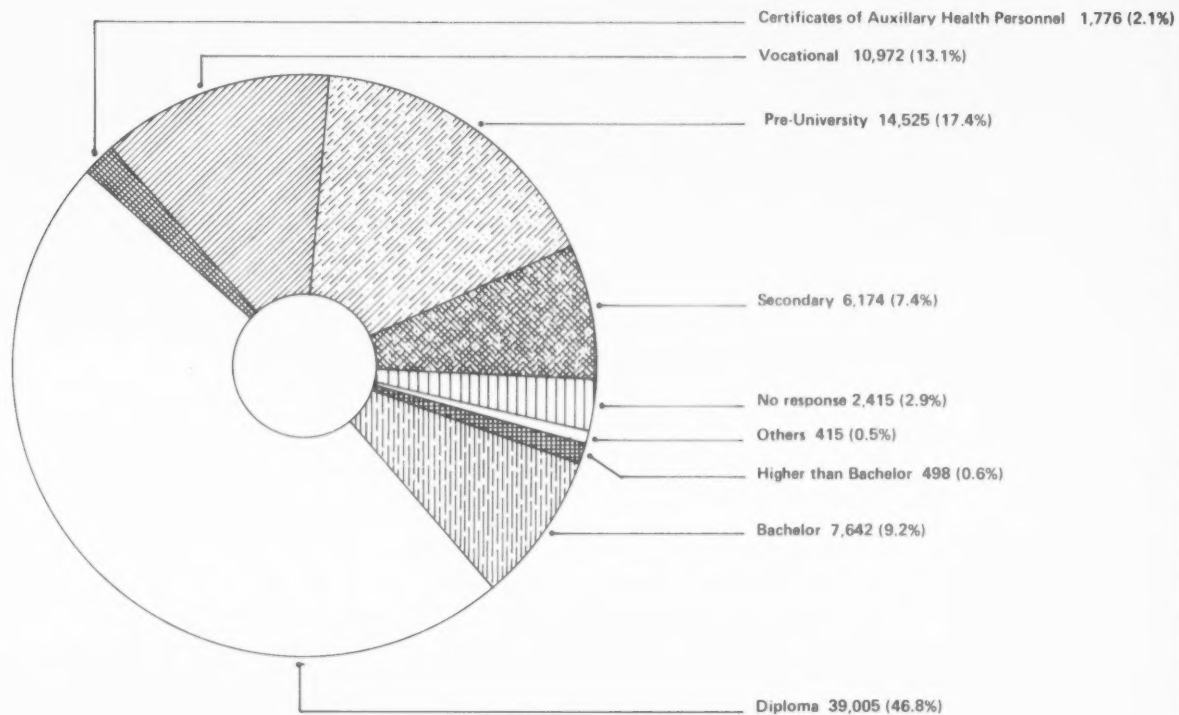
Enrollment (1984)				
3. Degree Colleges	Number	Boys + Girls	Capacity	Faculty
Total	11	22,253	2023/1	745
Rural	8	20,004	2500/1	606
Urban	3	2,249	750/1	139

Enrollment (1984)				
4. Universities	Number	Boys + Girls	Capacity	Faculty
General	14	698,424	43651/1	14,000
Technical	2	10,681	5,340/1	998

Enrollment (1984)				
5. Professional Colleges	Number	Boys + Girls	Capacity	Faculty
Medical	2	80	40/1	37
Engineering/Technology	2	3,667	1833/1	175
Agriculture	45	53,093	1179/1	5,175
Teacher Training				
- Primary Training	36	1,285	827/1	6,811
Training				
- Secondary Teacher	36	28,476		

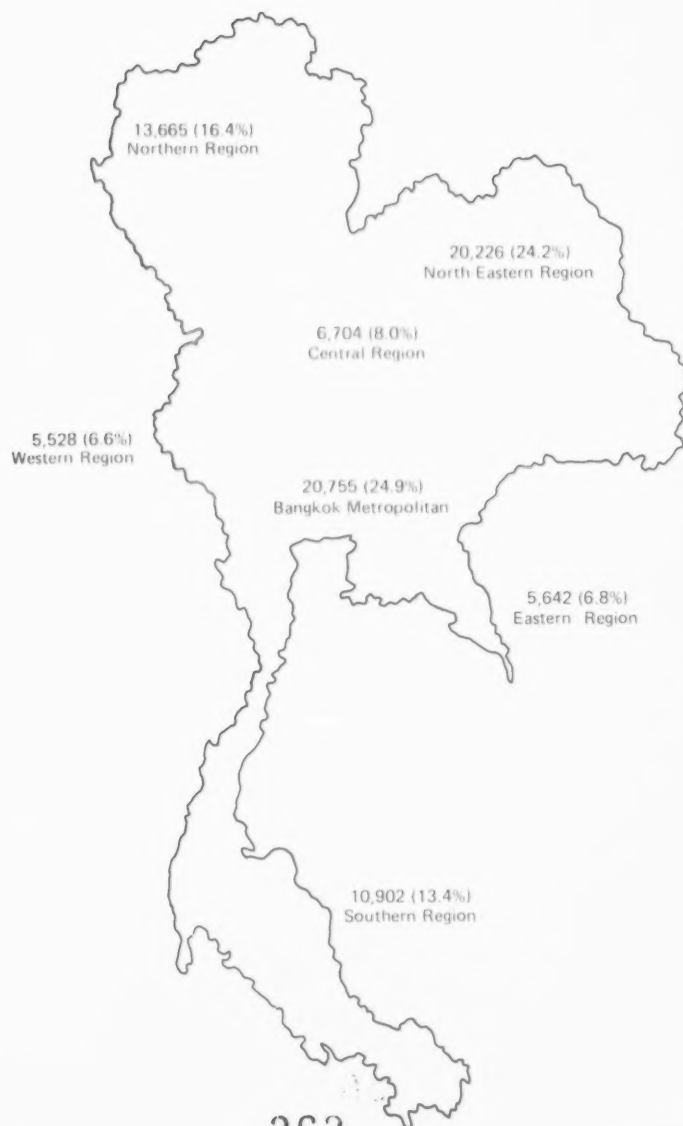
Enrollment (1984)				
6. Technical/Vocational	Number	Boys + Girls	Capacity	Faculty
Training Institutes				
Polytechnics				
Technical Training	70	108,889	1555/1	27,709
Centers				
Commercial Institutes	80	62,616	783/1	
Vocational Training				
Institutes				

NEW ENROLLMENTS IN ACADEMIC YEAR 1985 BY EDUCATION

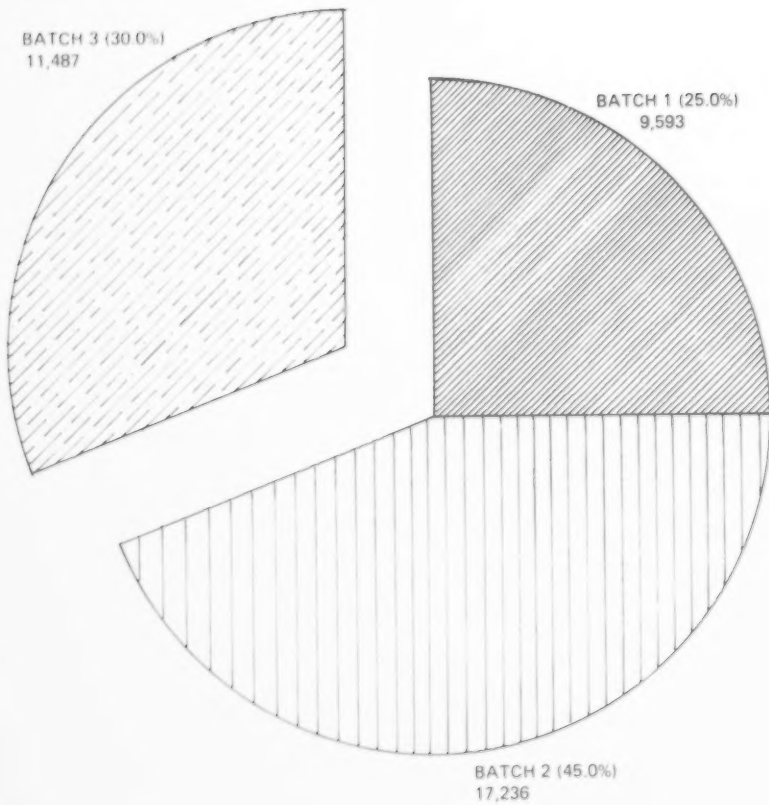


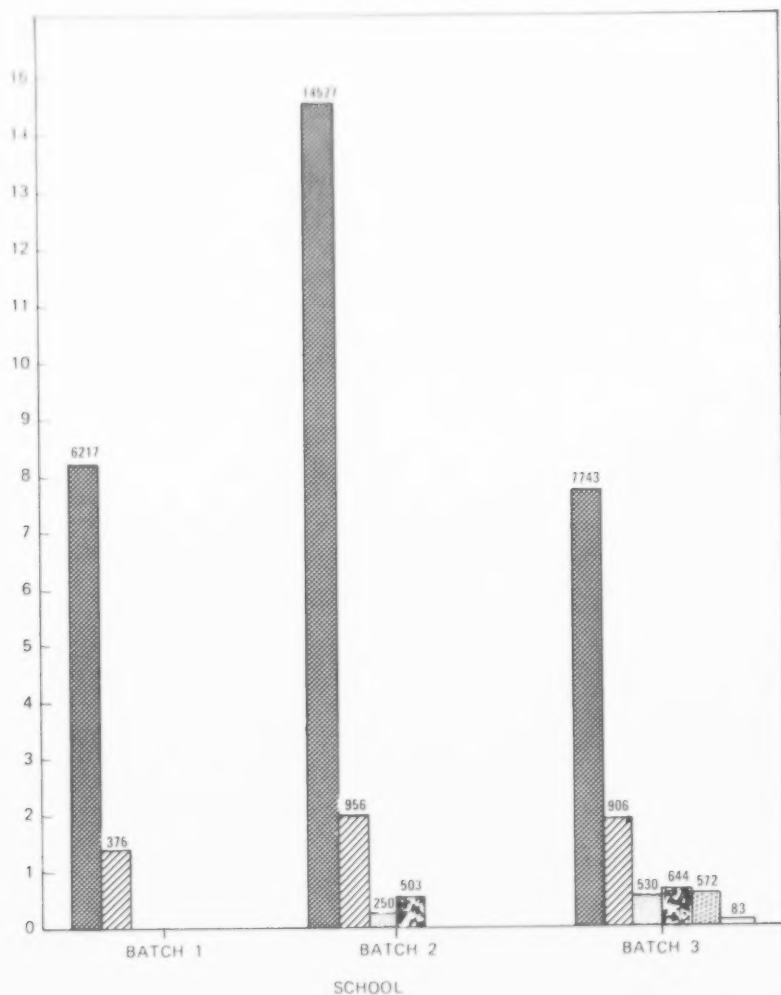
362

NEW ENROLLMENTS IN ACADEMIC YEAR 1985 BY REGION



NUMBERS OF GRADUATES (BATCH 1 - 3)



NUMBERS OF GRADUATES (1982 - 1984)
BY BATCH

EDUCATIONAL STUDIES

AGRICULTURAL EXTENSION AND
COOPERATIVES

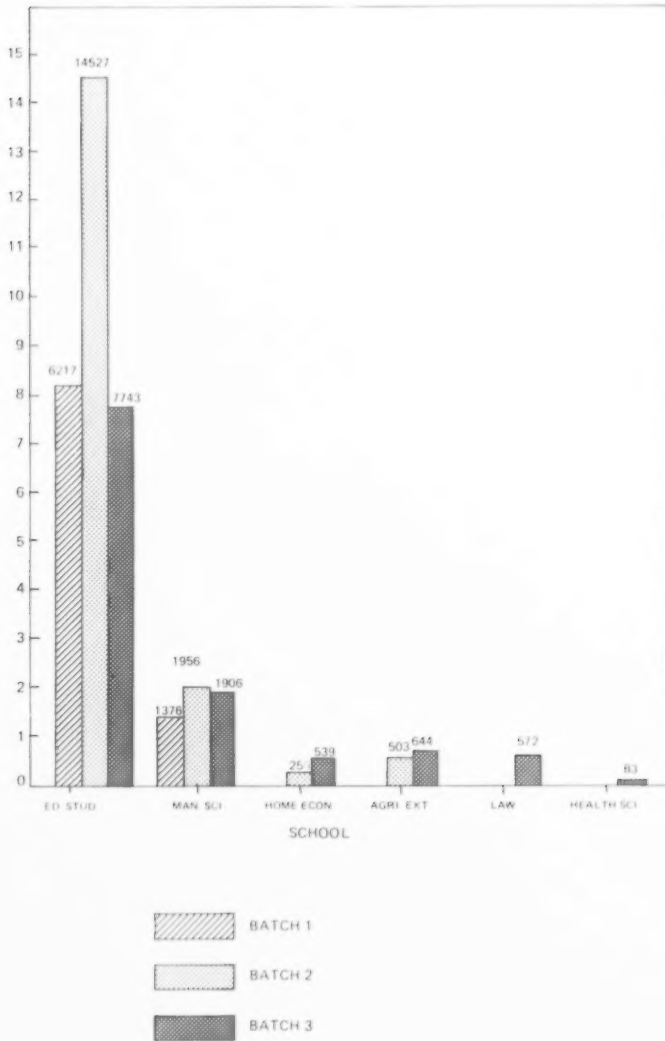
MANAGEMENT SCIENCE

LAW

HOME ECONOMICS

HEALTH SCIENCE

NUMBER OF GRADUATES (1982 - 1984)
BY SCHOOL



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PART III

COUNTRY PAPERS

Distance Education in Australia

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THE DEVELOPMENT OF DISTANCE EDUCATION IN AUSTRALIA

An Australian historian has written: "Distance is a characteristic of Australia as mountains are of Switzerland." The Australian land mass has a total surface area of almost 8 million square kilometers. It is approximately the same size as the United States of America, but by contrast has a population of 15 million compared with that of the USA of 250 million. What is more, Australia is a highly urbanized country, with almost 70 per cent of its population living in cities along the coastal region and over 50 per cent in the capital cities. The result is that large parts of Australia are very sparsely populated. Of course, much of Australia is desert. Sixty per cent of the continent receives less than 400 mm of average rainfall a year and 40 per cent receives less than 250 mm. Given such a vast country with such a sparse population, one could argue that Australia was almost designed for distance education.

Distance education in Australia has been part of the educational system at primary, secondary and tertiary levels, virtually since the turn of the century. The elements specified above are applicable to all three levels.

Distance education at primary and secondary levels commenced in Australia soon after the turn of the century when this mode of teaching was used to take education to children in outback rural areas. Instruction was print-based and students were normally assisted by a member of the family. From these so-called correspondence lessons developed the Australian Schools of the Air.

These schools use a small group of teachers based in broadcasting studio and provide daily assistance via shortwave radio transmission to students spread over tens of thousands of square kilometers. One such School of the Air in Western Australia is described thus:

"The Carnarvon School of the Air encompasses an extensive pastoral area of about 145,000 square kilometers, extending some 550 kilometers from north to south and nearly 300 kilometers inland. The region is comprised of large, relatively arid holdings devoted mostly to wool growing. The size of holdings is generally between 125,000 and 200,000 hectares. Of the 37 families enrolled in the Carnarvon School of the Air, one runs a roadhouse and another is relatively itinerant. The remaining 35 live on 31 sheep stations nearly all as owners and/or managers. Consequently, the School of the Air families represent an essentially pastoral perspective.

The teachers are trained, professional and with a broad perspective. They are given responsibility for handling the 25 minutes per day

on-air lessons for the children in a given class, for directing a child's work on his correspondence lessons, and marking it when it arrives.

The advent of new technology such as audio and videocassette recorders and the development of the Australian satellite network has resulted, and will continue to result, in quite exciting development in such so-called correspondence courses."

In the post-secondary sector of Australian education are the universities, colleges of advanced education (CAEs), and the technical and further education sector (TAFE). The term "post-secondary" is normally used to include all three sectors, as is the term "post-school". The term "higher education" is usually reserved for universities and colleges of advanced education. Technical and further education colleges have generally been responsible in Australia for providing education at the trade level. However, they have also been involved in short vocational courses and now have extended into providing courses at the diploma or sub-professional level of education in areas such as engineering. The TAFE colleges have also traditionally been involved in teaching at a distance. In the higher education sector, courses offered at the distance are generally based on the humanities and social sciences. Education, law, business, commerce and economics are offered by both colleges and universities. There is also provision for distance learning in the disciplines of engineering, architecture, nursing, agriculture, art and design, performing arts, psychology, counselling, recreation and leisure, journalism and community languages.

In the post-secondary education area, distance education also commenced soon after the turn of the century. The University of Queensland which was established in 1910 was required, by law, to introduce a correspondence program. The University of Western Australia also entered early into distance teaching. During and after World War II there was an upsurge in distance teaching as the universities cooperated to enable service men and women to continue with university studies. Major universities, including Sydney and Melbourne, entered into this scheme, but both ceased the practice soon after the end of World War II.

The University of New England, which presently has the greatest number of external enrollments of any tertiary institution in Australia, first offered external studies in 1955. Its students were mainly teachers seeking to upgrade professional qualifications.

During the late 1960s and 1970s there was an enormous upsurge in distance teaching in Australia. Not only did a number of universities become involved, but a large number of new colleges of advanced education were established and they moved rapidly into distance teaching. There are currently seven universities and some 30 colleges of

advanced education offering a wide range of external courses at tertiary level in Australia.

As indicated above, distance education in Australia grew out of the nation's geographic and demographic peculiarities. It was the only way in which education could be taken to a significant part of the population.

However, there are other people who have made demands on distance education. A person in a large city can be just as remote from education opportunities as one who is 1,000 kilometers away from a teaching institution. People in urban areas can be locked out from education for any number or variety of reasons. They may have work commitments which prevent them from attending at times when on-campus lectures are given; they may have family commitments which similarly prevent them from attending on-campus classes; they may be physically handicapped; and they may be socially handicapped. There are also those who do not have the confidence in themselves to attend on-campus classes. They are not prepared, because of real or imagined shortcomings, to participate with a group of people in a classroom situation. Thus distance education now provides opportunities in Australia to the urban-isolated, as well as rural-isolated.

A further group of participants in distance education has emerged, they are those who prefer this mode of study. Just as there are people who prefer face-to-face teaching so that they can interact with their lecturer and fellow students, there are those who prefer off-campus study for the benefits which they see in it, such as studying at their own pace, in their own home. As the techniques used in distance teaching improve and as wider use is made of the new technologies, this latter group has grown in size in Australia.

Parallel with the growth of this group is the growth of the group which prefers a mixed mode of study in which a combination of on and off-campus techniques is used. Thus a student may elect to obtain basic course information through distance education study materials rather than from a lecture, but may still opt for some face-to-face tutorial classes. It is also common in Australia for students to study some subjects in the on-campus mode and some via external studies.

There is another reason for the rapid development of distance education in the last 15 years in Australia which has nothing to do with techniques, or preference, or remoteness. During the 1960s there was an enormous upsurge in the number of colleges of advanced education operating in Australia. Some of these were uneconomical because of their size and a subsequent round of amalgamations and closures in the early 1980s reduced the number to approximately 40. Nonetheless, a number of CAEs managed to survive as autonomous institutions only

because of their ability to increase enrollments through the distance education mode. There are a number of CAEs whose external enrollments constitute over 50 per cent of total enrollments.

That these CAEs spread too rapidly into distance teaching is not necessarily a bad thing in that the movement did provide educational opportunities for a greater number of people. However, the motive was sometimes rather less altruistic and more the need to survive. Most of these institutions now have sufficient enrollments to ensure their viability and fortunately most have developed a commitment to distance teaching so that they are now involved in this mode because of a belief in its value rather than of necessity.

Whatever the reasons for the development of distance education in Australia, the result has been increased educational opportunities for Australians. There are very few citizens of Australia who now do not have access to educational opportunities through either on-campus or distance education. The one great advantage of distance education is that it provides access to a greater number of people and thus makes the quality of educational opportunities much more real. This has been the case in Australia.

COURSE AND CLIENTELE

At the primary and secondary levels, a standard education curriculum is provided, whereas TAFE courses are studied by people wishing to upgrade trade or technical qualifications. TAFE also offers a wide range of non-formal education courses for those who wish to upgrade their educational qualifications in a wide range of areas, but do not need this study to lead to an accredited award. TAFE courses are also studied by a large number of people as part of their leisure activities.

In the higher education sector, most courses offered externally lead to formal accredited qualifications ranging from diploma through to degree and masters level courses. An increasing number of distance teaching institutions, like TAFE, are also offering courses for leisure and personal development. This type of education has long been offered by higher education institutions in the on-campus mode, but they are now beginning to offer them to off-campus students.

It is worth noting that in Australia education is free to students in all courses which are accredited by the Government. Thus students studying for primary, secondary or post-secondary qualifications pay no fees. However, short courses, known as continuing education courses, which do not lead to formal qualifications and which are studied by the

student for personal satisfaction or for leisure are not government-funded and the cost of the course must be recovered.

As has been indicated in the section above, a wide range of courses is offered externally in Australia. This leads to the inevitable question, what can be studied at a distance? The answer is that subjects from almost any discipline area can be studied at a distance, the only problem being one of cost. Some courses are more cost-effective to teach at a distance than others. In courses in the humanities areas, instruction can be effectively given by print and audiotape. Courses which have a practical component can produce some difficulties, though these are not insurmountable. The introduction of computer-aided instruction opened up many more opportunities in distance teaching as did the use of videotapes and the dispatch of experimental kits to students. Many students can also obtain practical experience in their workplace under the supervision of more senior workers who in turn receive direction from teaching institutions.

Engineering at the sub-professional or associate diploma level has been taught externally in Australia for a number of years. These courses produce graduates who work at the supervisor level in electrical, mechanical and civil engineering projects. The Australian Institute of Engineers has recently ruled that at least half of the professional degree level engineering course may be taught externally. This is a recognition by a premier professional engineering institute in Australia that engineering at the professional level can be taught externally. With this breakthrough, there are few discipline areas which cannot be studied externally in Australia. The most obvious of those not available in the external mode are in the health science areas, such as dentistry, medicine and veterinary science. However, it can be argued that, although it may not be possible to teach all of these courses at a distance, certainly the non-clinical sections could be so taught.

Primary and secondary level external students are largely confined to those who, because of their remoteness from a teaching institution, cannot attend on a regular basis. There are also some who, because of a physical handicap, are required to study in the home. There are also a small number of adults who, for some reason or other, have not had the opportunity to study during their early years and now wish to become involved in formal education. This small group often prefers to study in their home rather than attend organized classes.

In the post-secondary area, until relatively recent times, the great bulk of external students undertook external study because of their remoteness from a teaching institution. In the oldest of Australia's distance teaching universities, the University of Queensland, it has long

been the policy that students who are located within reasonable traveling time of the university are not permitted to enroll as external students but must attend on-campus classes. However, there has been quite a dramatic change in the past ten years. In other Australian universities and colleges of advanced education, there are many examples of students living within one or two streets of the institution who, for one of the reasons given above, prefer to study externally. There are also examples of students living close to one institution who prefer to study externally at one much further away. It is clear that some students choose external studies because they prefer that mode of instruction. Approximately 20 per cent of all external students in colleges of advanced education live within 40 kilometers of the institution at which they have enrolled. Some of the reasons given by students for using the external mode of study are the likelihood of relocation in their job, frequent business travel, irregular hours of work and simply preference for that mode of study.

There are also in Australia small, but apparently increasing numbers of students, who are studying full-time externally. External study has normally been regarded as a mode of study for people who are employed, or involved in home duties. Now there is a group of people who have the time available to study full time in their own home and prefer this to attending an institution on-campus.

It should be obvious from what has been written above that the Australian distance education system does not fit into the mold of the second chance philosophy as espoused by the Open University of the United Kingdom. Certainly there are quite a number of people who, for one reason or another, missed the opportunity of studying in their early life and who are now seeking to make up this loss. However, such people in Australia have an equal opportunity of studying on-campus as they have of studying off-campus. Qualifications for entry into accredited distance education courses in Australia are the same, whether studied in the on-campus or off-campus mode. Most institutions which are enrolling students both on and off-campus stick rigorously to this rule because there is no wish to downgrade the value of the external qualification by taking in externally students who are not qualified to study internally.

Even though only 20 per cent of external students are under 25 years of age compared with 80 per cent of on-campus students, it is not uncommon for recent matriculants from secondary education, people in the 17-18 years age bracket, to enroll in their first accredited higher education course in the external mode. These are normally students who live and subsequently obtain work in areas which are not serviced

by a higher education institution and who elect to study on a part-time basis at a distance rather than relocate at considerable cost near to an on-campus institution. In the state of Queensland there are a number of large mining centers, some of which are up to 1,500 kilometers from a city with a tertiary institution. The companies in these mining cities, which may have from 5,000-20,000 inhabitants, often prefer to take students who have recently matriculated and employ them in areas such as engineering and accounting, the students being given the opportunity to enroll and study at a distance for a tertiary level degree or diploma. Firms see certain advantages in being able to give their employees on-the-job training while they are also studying for a qualification. The student is happy to obtain a job in a professional area immediately on leaving school, and the parents of the student are equally happy that they are not burdened with the cost of sending the student a considerable distance away from home to study. Thus in Australia the term distance education is not synonymous with mature age study as it is in many countries in the world. It is also not synonymous with open entry into courses.

There is no denying that external students are, in the main, older than face-to-face students, although the difference between external students and part-time face-to-face students is not great. Also, because many higher education students studying externally, already have a degree or diploma, external students are by and large better qualified on entry than their face-to-face counterparts.

It can also be seen from the above that distance education students in Australia are in every case taught by institutions which are also teaching on-campus students. Students whether on or off-campus study the same curriculum, are assessed by the same means, are instructed by the same teachers and receive the same qualification at the end.

There are a number of measures available to indicate the success or otherwise of distance education teaching. These include:

- withdrawal or attrition rates
- pass rates in individual courses
- graduation rates
- acceptance of graduates in the market place

There is little evidence available by which the market acceptance of external graduates may be judged. Some superficial evidence shows that the employment rate of distance education graduates is better than their face-to-face counterparts, but this is partially because the majority of students studying externally are already employed. Probably the single

greatest advantages of the Australian system of distance education is that unlike the specialist distance education institutions in other countries, problems of acceptance of credentials does not have to be faced. When a student graduates from a mixed mode institution, that is one which accepts both on and off-campus students, there is no difference in the qualification granted to either. Nor is there any indication on the graduation certificate as to the mode by the student studied. Most important of all, Australian employers, by and large, show little interest in whether a student obtained qualifications by internal or external study. Indeed, there is superficial evidence that some employers show preference for external graduates on the grounds that they have already demonstrated that they have the self-discipline necessary to succeed in business. It appears that prospective employers pay more attention to the institution from which students graduated rather than the mode by which they studied.

There is some evidence available on withdrawal and attrition rates, which indicates that the dropout of students in a particular unit or subject is greater for external than internal students. There is also general acceptance that among most of those who sit for the final examination, the success rate of external students is greater than for internal. Of course the margin between attrition rates between face-to-face and external students is narrowed substantially when comparison is made with part-time face-to-face students. There is little argument against the statement that external students are more likely than on-campus students to drop out in the early stages of the course.

The limited studies that have been done make it difficult to be positive about the type of students who are most likely to succeed or fail in distance education. It is likely that they will be the same sort of students who will succeed or fail in on-campus classes. There is no evidence in Australia that mature-age learners are more successful than younger people including recent matriculants in higher education though there are educators who hold this belief. Obviously, students who have previously obtained a degree or diploma and who have experience of study whether it be on or off-campus are more likely to succeed. But the crucial point is the standard of instructions. Where an institution has high standard instructional materials and where allowance is made for interaction between teacher and student, attrition rates will drop. What needs to be done in Australia, as in many overseas countries, is that researchers should pay more attention to the standard of instruction available when making assertions about the success or otherwise of the clientele.

THE MODEL OF DISTANCE EDUCATION

The Government's attitude to distance education in Australia is extremely positive. With a few exceptions, government officials see distance education as being an alternative but equal means of instruction. They also recognize that it is a means of increasing educational access to all sections of the community and they recognize that it is a mode of instruction which does permit cost savings through economies of scale. To outsiders the Australian educational scene can be viewed as being most confusing. This is because there are seven separate educational authorities. Each of the six states has its own educational system, while the Commonwealth Federal Government also has its own department of education.

The majority of taxes in Australia are collected by the Federal Government which then disperses a significant amount to the State Governments. In the case of school education, the Federal Government generally allocates monies to the States to run their own systems. The situation is more confused in the tertiary education sector. The Federal Government fully funds universities and colleges of advanced education for their agreed teaching and research activities. In some circumstances the Federal Government may also provide funding for specific purposes towards achieving its objectives of improving the quality and relevance of education, encouraging quality of educational opportunity and outcomes, and increasing participation in education. The colleges of technical and further education are primarily funded by the States but the Federal Government provides about 60 per cent of their capital and equipment needs and 10 per cent of recurrent funds.

Consequently, the Federal Government has the opportunity to exert significant influence over national goals and achievements in education. It also indirectly influences the activities and output of the education sector through its control over other influential national policies such as employment and training, and industry and technology.

State education authorities are fairly autonomous. In most states, primary, secondary and TAFE sectors are directly under the control of the state departments of education. Colleges of advanced education are under the control of the state coordinating authority which nonetheless reports to the Minister of Education. The universities have the greatest degree of autonomy.

With so many education systems operating in parallel, there is a great deal of duplication. In face-to-face teaching this is of lesser importance, as the main expenditure is on staffing and capital costs which have only limited economies of scale. With distance education

there are large economies of scale available, and the duplication of effort has enormous funding implications. Nonetheless, the state authorities have largely gone their own way. However, in primary, secondary and TAFE, damage is somewhat limited because, at least, there is only one distance education system within each state. Generally, each state has only one primary correspondence school, one secondary correspondence and a single state TAFE system. The scene is much more complicated in higher education. Within each state, there are a number of universities and CAE each with its own distance education organization, with the result that there is much duplication of effort. Some of the six states have taken steps to organize higher distance education within their state boundaries on a more efficient basis, and at the same time, the Commonwealth Government is using its influence to attempt to increase cooperation on a national basis. It has set up a Commonwealth Standing Committee on External Studies for the prime purpose of improving the efficiency and effectiveness of distance education in Australia. This confusing and oft-times confused system of distance education at the higher level of education in Australia is generally referred to as a dispersed system as opposed to the centralized model which operates in most other countries.

Distance education in primary, secondary and TAFE sectors within the states operates as part of the relevant primary, secondary or TAFE sectors with an interchange of teaching staff between the face-to-face schools and the so-called correspondence schools. In higher education, most CAEs and universities have established a division of external studies. In many cases, continuing education is also part of external studies, largely because short continuing education courses are being taught using the external mode. As was pointed out earlier, virtually all courses which are taught externally are also taught internally, in most cases by the same staff member. Typically the teaching faculties or schools of the institution will provide academic input into the instructional materials while the division of external and continuing education will provide instructional design expertise and be responsible for preparation, production and distribution of the instructional materials.

One of the longer established universities did operate under a system whereby separate academic staff were appointed to the division of external studies. There was thus a complete dichotomy between staff who taught courses internally and staff who taught the same courses externally. However, the university has now abandoned this system.

The strength of the divisions or faculties of external and continuing education within their particular institution varies between organizations depending on the philosophy of the institution and personalities of

the people involved. In some cases, the external studies area has a large input into course preparation and delivery and may be responsible for the overall instructional standard of materials which are used. At the other end of the scale, the external studies section may consist only of an administrative section involved in word processing, printing and dispatch, or even have these processes largely integrated into the institution's overall administrative structure.

A large number of private organizations are involved in primary and secondary schooling. They are operated by religious as well as non-secular organizations. However, none of these are involved in distance teaching. In the TAFE sector, there are no non-government agencies involved either in on-campus or distance teaching.

There are as yet no private universities in Australia, although a number of proposals have been put forward from time to time and it is possible that one could be established in the near future. However, there are a small number of non-government CAEs. These are run by religious organizations and are largely concerned with producing teachers for their primary and secondary schools. None of these non-government institutions are involved in distance teaching.

While universities are permitted to offer such awards as they may wish within the limits of their funding, the awards offered by CAEs must first be approved by the government instrumentality known as the Australian Council on Tertiary Awards (ACTA). No non-government higher education agency can offer an award without its first being accredited by ACTA. Thus while there are a handful of private organizations marketing short courses, none are able to offer or attempt to offer an accredited degree or diploma. It is possible in future that some organization such as a large computing firm may seek to have an award accredited by ACTA. In theory this is not impossible. No doubt the Government is concerned that should accreditation be given to non-government agencies to offer accredited awards, these organizations will seek Government support on the same basis as government institutions, notwithstanding that they are charging fees on the basis of full cost recovery. Nevertheless, it is unlikely that in the foreseeable future private enterprise will play a significant role in distance education in Australia.

Due to competition between Australian students wishing to study on-campus at a tertiary level, the Australian Government has introduced fees for overseas students. Thus, whereas formerly there were a large number of overseas students studying in Australia, the number will in future be limited to those who receive scholarships from the Australian or their own government, or those who are prepared to pay the fees

which are being levied. Because of some adverse reaction from overseas countries, the Australian Government has suggested that Australian institutions should offer their courses in foreign countries at a fee which would be hopefully less than that which are being charged to foreign students to study in Australia.

Obviously, the cheapest way that this can be done is for Australian distance teaching institutions to sell their study materials in overseas countries and perhaps supplement these with some tutorial work and face-to-face teaching. A number of Australian institutions have taken up this option and undoubtedly more will.

This development is mentioned as it is an example of distance teaching institutions truly entering into the market place. Overseas students will not be prepared to buy instructional materials in order to study for the accompanying qualification if both materials and qualification are not of a high standard. As Australian institutions may be given the opportunity to truly compete with each other in an open market, the result may be an increase in the standard of distance teaching in Australia, at least in some institutions.

THE DELIVERY SYSTEM

Besides print materials which incorporate such things as study materials, books of readings, instructional charts and textbooks, the most common supporting materials are audiotapes and videotapes. In addition some institutions have developed computer-managed learning systems of a high standard of technical skill and inroads have been made into the use of videodisc. Telephone tutorials or teleconferencing to link up students at study centers scattered throughout Australia are very common and their use will become more widespread with the availability of the Australian satellite. Residential schools, i.e. short duration schools held on campus for external students, are a common feature of Australian distance education. In some institutions they are compulsory, but their use is largely dependent upon the teaching philosophy of the institutions. Some institutions consider it necessary that there be some face-to-face contact each year between teacher and student, while other institutions use residential schools solely as a means of helping students undertake components of the course which cannot be done in the home, such as practical sessions in laboratories.

Institutions which place less reliance on the face-to-face component of the course are mainly those which have attempted to make their instructional materials most self-contained.

THE ON-CAMPUS FLOW ON

Because distance teaching is much more visible than on-campus teaching, there is greater pressure on the institution and the individual to improve teaching standards. Because there are a large number of institutions teaching at a distance in Australia, there is a degree of competitiveness. This has certainly acted to improve instructional standards at a distance, whereas face-to-face teaching is largely conducted in the confines of a classroom with only the teacher and students being privy to the operation so that the competitive element is not nearly as pronounced.

It is also true that there has been a flow on of the instructional materials initially designed for distance education students to on-campus because, in most cases, the same teachers are instructing on and off-campus students at one time, and it is inevitable that materials produced for external students will be made available for internal students. This instructional materials flow on has had the effect of improving on-campus teaching in Australia. It could well be that one of the disadvantages of single mode institutions, which teach only at a distance, is that there is not the impetus to make materials available for on-campus students. Certainly the Open University of the United Kingdom has attempted to market its materials to other organizations, including those teaching on-campus. In most countries some degree of government funding is provided to distance teaching institutions to enable them to provide courses at less than full cost recovery. It seems a pity then that this money is not put to greater use by enabling on-campus institutions to also make use of the materials. No doubt there will be arguments that teaching staff will wish to use their own materials, but there are many who, given the opportunity, will take advantage of high quality materials which are already available.

ACCESS AND THE DISADVANTAGED

It is generally accepted that distance teaching in Australia has greatly improved the access to education for Australian citizens. Although there is still a shortfall of places in some courses of study, there are few Australians who do not have access to primary and secondary education, and there are also few who do not have access to higher education, provided that they have attained the necessary academic prerequisites.

Herein of course lies a problem as there are undoubtedly people

who would wish to undertake study at a tertiary level but cannot obtain admission as they have not attained the necessary academic standards. This is the advantage of open entry into tertiary education such as in the United Kingdom. Here, in theory at least, educational opportunities are open to all who have motivation, irrespective of their pre-existing educational standards, provided that sufficient places are available.

There is nonetheless a degree of openness in distance education institutions in Australia and this has seen an improvement in the participation rate of groups previously poorly represented in education. The most obvious example is with women and to a lesser extent the economically underprivileged. In universities, the percentage of external students who are female has risen from below 40 per cent to over 50 per cent in the past ten years, while in CAEs it has risen slightly to a figure just under 50 per cent. As the total number of external students has risen rapidly, this means there has been a very large increase in the number of females enrolled in the external mode.

There has also been a conscious effort to provide access to the disadvantaged group including the disabled and the imprisoned, and there is a growing conviction within many distance teaching institutions that they should make distance education more open and in fact should discriminate in favor of disadvantaged minorities.

A corollary of the attempt to improve access to disadvantaged groups through distance education in Australia has been the development of so-called bridging courses. These are short courses which will enable potential students to bridge the gap between their present standard of education and that necessary to successfully undertake a tertiary level course. Some of the courses also attempt to provide the motivational support necessary to encourage students to persist. A too sudden re-introduction to education can produce something of a shock, the more so if it involves studying at a distance. Suddenly students find themselves confronted by a package of instructional materials and left entirely to their own devices. Unless adequate interaction and support is provided, it takes a very highly motivated student to overcome this initial feeling of total isolation. Properly designed and prepared bridging courses in not only academic knowledge but also attitudes and study skills can go a long way to providing the necessary support.

RELEVANCE OF THE AUSTRALIAN MODEL TO OTHER NATIONS

In the following section, the relevance of Australian distance edu-

cation to other nations is discussed. Hopefully, delegates will learn something from the analysis. The discussion is largely based on the higher education section, partially because this is the area with which the author is most familiar, but also because it is understood that this is the area in which delegates are most interested.

However, the primary, secondary and TAFE sections are organized and operate in a manner similar to that of higher education. They are dispersed across the six states in a manner explained below and they use similar teaching techniques.

The so-called dispersed model of distance education in Australia has been mentioned above. By a dispersed model is meant that a large number of autonomous institutions working in the main quite independently of each other have set up their own distance education organizations which are dispersed around the nation. There are seven universities engaged in distance education with a total of about 15,000 students, this being slightly less than 10 per cent of total enrollments. There are also 30 CAEs offering external studies, but only nine of them have over 1,000 students. A total of 29,000 external students are enrolled in CAEs, this being about 15 per cent of total enrollments. The number of external students in universities has doubled in the last ten years and in CAEs it has trebled. In the TAFE sector there is about a total of 350,000 dispersed evenly across the states. Many of these students are enrolled in single subjects, as opposed to the higher education sector where the students are by and large enrolled in accredited courses. There are over 800 external studies courses offered in higher education with much duplication. For example, 17 institutions offer courses in the business area, 20 institutions offer teacher education and there are also multiple offerings in humanities and social sciences. Of the approximately 40 higher education institutions which are offering external studies, the largest has about 5,000 enrollments while many have fewer than 1,000.

Australia is a federation of states, and although there has been a slow move towards the centralization since federation, the states are nonetheless politically very strong. Education systems have been set up by the states and they have guarded this portfolio jealously. Thus it was inevitable that there would be at least six separate distance education systems in Australia, and given the political diversity of the governments in the states, it was inevitable that there would be a limited amount of cooperation between them. However, the higher distance education picture is worse than that. Within each state, as has been described above, there is further duplication. The Federal Government can exercise some control through its dispersal of funds and it has set up

a standing committee on external studies to attempt to reduce the duplication of effort and wastage. But the committee faces an onerous task.

The picture then, in higher distance education in Australia, is one of a large number of relatively small institutions offering a multiplicity of courses. The question arises as to whether there are any favorable features of the model which can be recommended to other countries.

One argument in favor of the dispersed system in Australia is its contribution to the viability of some institutions. When the new small, and generally regional, institutions were established, they were vulnerable to downturns in funding and enrollment. Distance education became for many a way of making better use of an expensive infrastructure.

But the most commonly used argument in favor of the dispersed system is the stimulus to competition between the providers that has resulted. There is little doubt that this is true. Competition between the best of the providers is very intense and because distance education instructional materials are so visible competition becomes more obvious. Those providers who have put more effort into distance teaching in Australia are undoubtedly as good as any in the world, and by their efforts they have given an impetus to the other providers to also improve their standards. However, competition can be an expensive thing and this level of competitiveness may have been achieved with many fewer institutions.

A further argument is that regional institutions can be more responsive to needs of the local community. There is some truth in this argument in a limited number of specialist teaching areas. However, the argument is destroyed by the fact that in major areas such as business studies there is a core of information which is not a function of local needs.

The decisive argument is that the dispersed system in Australia exists and is well established. However, it can and should be modified into a coordinated dispersed model. This model may well have many advantages to countries considering establishing a distance education system.

In general it can be argued that external studies in Australia lacks a coherent rationale and shared direction. As a result, quality of instruction is variable and sufficient advantages are not taken of economies of scale. It has been argued above that the quality of instruction at its best in Australia is as good as the best in the world. However, with so many institutions involved, some of them operating on quite a small scale, the quality is variable. At its worst the quality of instruction is of inadequate

standard. Economies of scale which are available to distance teaching institutions are consequently not taken advantage of in many cases. It will be argued below that the economies of scale are largely in the preparation and production of materials rather than in their delivery. These economies in preparation and production by definition do not accrue until a minimum number of students are enrolled. All too often, this minimum number is not obtained in some courses in Australia.

The consequent fragmentation and duplication of effort substantially reflects on the efficiency and quality of both courses and institutions and inefficiencies and loss of quality are compounded by the fact that each institution is duplicating to some extent the work of other institutions.

The same factors militate against the use of the new technologies which are becoming available to distance education institutions. Many of these technologies require initial development, trial and evaluation. It is difficult for any one institution to undertake trial and evaluation on its own. Many of the new technologies require national coordination and become very expensive without it. An example is computer-based training where the preparation of software and courseware can be quite expensive, but once available could be commonly used by many of the institutions involved in distance teaching. A number of institutions have produced the software and are in the process of producing the courseware. However, having put a great deal of effort into them they tend to jealously guard materials so produced against the other institutions which they see as their competitors. Thus any other institution which wishes to enter into computer-based training must go through the same expensive time-consuming process of providing software and courseware. A further example is that a national telecommunications network is possible and would offer enormous benefits to distance education. This is especially so now that the Australian satellite has become available. No one institution is capable of investigating, much less carrying out, such a project.

Student support systems in many institutions are also less developed and accessible than they might be. Some institutions have developed a network of study centers and of late there has been some common use of study centers, but much remains to be done before a national cost-effective network becomes operative.

A further problem arises with staff training. Few, if any of the staff initially involved in distance teaching, have had previous experience in this mode of instruction. Some institutions go to great lengths to introduce staff to training programs and to make maximum use of instructional design expertise. But all too often such training is not made

available in Australia. It is absolutely imperative that no teacher without experience in distance teaching should be thrust into that mode without a training program.

It can only be repeated that the result of this uncoordinated growth of a dispersed system in Australia is that a substantial proportion of external study is offered at levels of efficiency and effectiveness below that which is desirable. But many of the disadvantages of the dispersed model listed above are those of a model which has grown up willy-nilly and is ill-coordinated. Many of them could be overcome with greater cooperation and coordination.

Australian distance teaching institutions all integrate their two modes of teaching, external and face-to-face. This means that the two groups of students are taught the same subject matter by the same teaching staff and are assessed in identical ways. They also receive the same qualification at the completion of their course.

Educators around the world have rigorously debated the advantages and disadvantages of a mixed mode or integrated institution such as operates in Australia, and the single mode institutions that are generally found overseas. There is very little evidence about quality and effectiveness to support arguments as to which enjoys educational superiority.

There is little doubt that distance teaching institutions which are based on an established face-to-face campus enjoy relative freedom from the problems of obtaining acceptability by education authorities and by the public. There is a corresponding freedom from the problem of obtaining quality academic staff who are prepared to teach solely in the off-campus mode. Perhaps this mixed mode of teaching approach which admittedly has been adopted more by accident than design is something which should receive the earnest consideration of nations considering entering into distance education.

There will always be problems in attempting to superimpose the distance teaching system on an existing institution which is devoted solely to on-campus teaching. But if these problems can be overcome, there are many advantages to be gained from the resultant mix.

Researchers who have attempted to analyze the costs of single mode institutions have found enormous difficulties, and these difficulties are compounded in the Australian dual mode system. Furthermore, because Australian distance teaching institutions vary greatly in their organizational structure, technologies, methodologies, level of courses and enrollments, the problem is compounded even further. Perhaps one of the worst problems of the dispersed system of distance teaching in Australia has been an apparent inability of institutions to furnish accurate sectional costs in their distance teaching operation.

However, the institution of which the author is a staff member has made a genuine attempt to isolate costs. As was mentioned earlier, Australian higher education institutions are all government-funded, and funding is on a capital and recurrent basis. In general terms, the institution at which the author is employed, receives recurrent funds of about \$3,500 per equivalent full-time student enrolled in a Bachelor of Business degree. How any one institution disperses the recurrent funding it receives is at its discretion. It is fully entitled to spend more than the recurrent amount on one faculty and less on another. More importantly, it is at liberty to spend more of its recurrent funds on face-to-face teaching per equivalent full-time student than it is on external teaching.

In the author's institution, the cost of producing materials and teaching a unit of study in the Bachelor of Business degree is approximately \$3,500 per student enrolled in a subject or unit of study with total enrollment of up to 50 students. However, when 200 students are enrolled, economies of scale begin to accrue and the cost per student falls to \$2,800.

Variances evident in overseas institutions in costs according to discipline area are also evident in Australian external studies. At the author's institution costs incurred in mounting a scientific unit are 40 per cent higher than those for business studies. But whatever the discipline area it is obvious that subjects taught by external means are definitely capable of economies of scale, albeit with some more so than others. The figures suggest that, in general, where enrollments are below 50 in a subject, distance teaching is likely to be very cost inefficient, and this is a generous interpretation. As a corollary, where there are 150 or greater enrollments, a satisfactory level of cost efficiency is being achieved. It should be reiterated that the greatest economies of scale accrue in the preparation and production of materials. Preparation includes the work of the author, the instructional designer and the editor. Production includes word processing, graphics, printing and audio and video production. There are far fewer economies in the mailing, warehousing, teaching, student support, examination and equipment provision areas.

If this is related to the Australian context, it means that provided the materials were prepared and produced by a central organization, satisfactory economies of scale could be achieved. If a multiplicity of institutions were then prepared to use these materials, or certainly the core of them, for their own teaching purposes, a cost-effective situation would result. Of course, staff in the institutions are quick to point out that they want the right to use their own materials. They would not be happy using something prepared in a central institution. These inhibitions may be overcome if the central organization prepares and produces only the core materials in subject areas and teaching staff are left

to add their own interpretations. This approach is especially relevant in vocationally oriented areas such as engineering and accounting. It may be more difficult in philosophical and social science areas. Funding authorities who have an obligation to see that, on a national scale, cost effectiveness in education is achieved, can argue that it is necessary for teaching staff to forego some of their independence of spirit in deference to an unacceptable cost structure.

The above approach looks at the costs of producing subject materials. But an institution which intends to operate in a distance teaching mode must be prepared to establish a basic external studies infrastructure. This comprises academic and technical staff, computer hardware and software, word processors and a printery. An institution which does not have this infrastructure will find it difficult to prepare instructional materials of an adequate standard and will be faced with the alternatives of either not putting sufficient expertise and effort into materials preparation, or using a modified face-to-face approach. In the author's institution attempts were made to separate out the infrastructure costs so as to give an indication of the cost of setting up an adequate external teaching system. It showed that such costs are difficult to justify until an institution has minimum external student enrollments of about 3,000. It showed that, where enrollments fall from 2,000 to 1,000, the costs per student increase enormously. It is also clear that these figures vary significantly according to the number of courses offered since each extra course incurs absolute cost increases.

In summary then, we can say that when a distance education system is being established that:

- (i) there are high initial costs which result in considerable inefficiencies until total enrollments reach a certain level;
- (ii) each additional course of study results in additional costs and an increase in total enrollment needed to achieve a given level of efficiency; and
- (iii) it is likely that total enrollment of at least 2,000 is necessary to support the efficient operation of an external studies program, even with a limited range of courses on offer, and of at least 3,000 of a wider range of courses.

These figures are lower than those which have been quoted for overseas institutions. One of the reasons is that in the mixed mode institutions in Australia, the external studies section share some infrastructure costs with the face-to-face areas.

Furthermore, the calculations above have been based on an ap-

proach to distance education which is decidedly modest. The model includes no allowance for broadcasting or other expensive technologies, or any high cost subject areas such as science. Further it is based on a much smaller range of courses than is offered by many of the big overseas institutions.

In 1973, the Australian Government undertook an extensive inquiry into distance education. The committee appointed by it recommended the establishment of a National Institute of Open Education (NIOE). This institute was intended to expand opportunities in tertiary education for all sections of the community through the coordination and expansion of external studies programs of the colleges of advanced education and universities. For a variety of reasons, the recommendation for a national institute was never taken up. With that decision, or lack thereof, the concept of a centralized institution died, probably for all time. However, the Government has now established, through the Commonwealth Tertiary Education Commission, a Standing Committee on External Studies which is currently endeavoring to introduce a greater degree of coordination into external studies system. It is the author's belief that large economies can be achieved by centralized coordination of the preparation and production of core study materials in the major discipline areas and that this can be done without affecting the autonomy and integrity of individual institutions.

CONCLUSION

External Studies, at its best, is of a standard in Australia to compete with anything else in the world. However, it has been repeatedly stated that the overall standard is one of great variability. The question which arises is whether a dispersed model which exists in Australia is worth emulating, not necessarily in the form which exists in Australia, but one where it is developed in a controlled manner — a coordinated dispersed model. The dispersed model has a number of advantages:

- (i) There is no doubt that competition between more progressive distance teaching institutions in Australia has been responsible for a rapid rise in instructional standards. This increase in standards in distance teaching has had the added advantage of flowing on to face-to-face teaching as well. It is hypothetical to argue whether the same standards would have been achieved with a single institution only. Perhaps those nations which operate with

a single institution involved in distance teaching such as the Open University of the United Kingdom or Sukhothai Thammathirat Open University in Thailand, both of which have instructional materials of a very high standard, would argue that standards are not dependent on competition between institutions in one country. Perhaps this is the case, but there is little doubt that in Australia, competition has had beneficial effects.

- (ii) There may be advantages in having more than one distance teaching institution in a country where there are obvious cultural diversities. It is a matter of whether education should be used to breakdown or preserve such cultural diversity.
- (iii) Similarly, in a nation which has discrete politically diverse sections there may be advantages in each having its own distance teaching system.
- (iv) In countries with very large land areas, especially if there is also a very large population and subsequent potentially large external enrollments, there could well be advantages in having a number of distance teaching institutions.
- (v) It could also be argued that where there are institutions specializing in a particular discipline area, they should be given the responsibility of teaching their particular specialist area at a distance. For example, a specialized university of science may be better off if given a mandate of also teaching at a distance rather than setting up a distance teaching institution which then has to acquire the specialized academic expertise in science.
- (vi) It is often argued in Australia that there should be no attempt to coordinate the distance teaching institutions. Rather they should be left to compete with one another in the market place and in this way, it is argued, that the less efficient would drop out. Of course this argument is irrelevant in a situation where funding is received direct from the Government. If the institutions were actually selling the course in the market place, the argument would have much more relevance. Thus, it could be argued that a dispersed system has advantages in a free enterprise educational market, but as long as institutions are government-funded there is no true competition.

EDUCATIONAL STATISTICS

1. AUSTRALIAN POPULATION

At the 1981 Population Census, 85.8% of the population was classified as living in urban areas (cities and towns of 1,000+ population).

**Table 1.1: AGE DISTRIBUTION OF THE POPULATION
ESTIMATED RESIDENT POPULATION BY AGE
30 JUNE 1983**

Age Group (Years)	Males	Females	Persons
0-4	599.2	569.8	1,169.0
5-9	619.8	589.9	1,209.6
10-14	699.3	670.8	1,370.1
15-19	656.8	627.9	1,284.7
20-24	681.5	664.0	1,345.5
25-29	642.2	627.9	1,270.2
30-34	628.0	614.0	1,242.1
35-39	579.7	558.9	1,138.5
40-44	456.9	434.7	891.6
45-49	390.3	372.1	762.4
50-54	384.5	368.5	753.0
55-59	377.6	372.7	750.3
60-64	317.2	343.4	660.6
65-69	251.3	291.2	542.5
70+	390.9	597.5	988.5
All ages	7,675.3	7,703.3	15,378.6

2. PRIMARY AND SECONDARY SCHOOLS

Table 2.1: SCHOOLS, STUDENTS, TEACHERS NUMBERS

	Government Schools	Non-Government Schools	Total
No. of Schools	7,546	2,362	9,908
No. of Teachers	145,908	41,589	187,498
No. of Students	2,281,022	737,784	3,017,806

Table 2.2: STUDENT NUMBERS BY SEX, 1983

Sex	Numbers	Per Cent
Males	1,173,036	51.4
Females	1,107,986	48.5

**Table 2.3: DISTANCE EDUCATION STUDENT NUMBERS
(APPROX.)**

Primary	3,400
Secondary	15,000

3. TECHNICAL AND FURTHER EDUCATION**Table 3.1: STUDENT NUMBERS ('000)**

	Males	Females	Persons
Full-time	41.7	37.0	78.7
Part-time	380.8	316.2	696.9
External	<u>32.3</u>	<u>23.2</u>	<u>55.6</u>
Total	<u>454.8</u>	<u>376.4</u>	<u>831.2</u>

Table 3.2: STUDENT NUMBERS BY COURSE ('000)

Type of course	Males	Females	Persons
Professional	1.9	1.4	3.3
Para-Professional	131.3	113.9	245.2
Basic Trade	101.6	11.3	112.8
Post-Trade	31.8	2.6	34.3
Other Skilled	124.3	144.6	268.9
Preparatory	<u>92.4</u>	<u>121.5</u>	<u>213.9</u>
Total	<u>483.3</u>	<u>395.3</u>	<u>878.4</u>

Table 3.3: TAFE DISTRIBUTION OF STUDENTS BY AGE, SEX
AND TYPE OF ATTENDANCE (PER CENT)

Age	Full-time			Part-time/External			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
15-19	3.2	2.9	6.1	15.4	8.8	24.2	18.6	11.7	30.3
20-29	1.4	1.0	2.4	17.0	11.6	28.6	18.3	12.6	31.0
30 and over	0.5	0.6	1.1	17.3	20.3	37.6	17.8	21.0	38.7
All ages	5.1	4.5	9.6	49.6	40.8	90.4	54.7	45.3	100.0

4. COLLEGES OF ADVANCED EDUCATION

Table 4.1: COURSE LEVEL OF STUDENT NUMBERS ('000)

Course Level	Numbers
Master's Degree	2.1
Graduate Diploma	24.4
Bachelor's Degree	107.5
Diploma	35.5
Associate Diploma	23.2
Other	2.8

Table 4.2: MODE OF STUDY: STUDENT NUMBERS ('000)

Mode of Study	Numbers	Per Cent
Internal - full- time	97.4	49.8
part-time	69.0	35.3
External	29.1	14.9

Table 4.3: STUDENT BY AGE, 1983

Age	Per Cent
19 years and under	27.1
20-29	44.8
30-59	27.8
60 and over	0.3

Table 4.4: PERCENTAGE OF STUDENTS COMMENCING
HIGHER EDUCATION IN 1984
IN THREE AGE GROUPS AND BY MODE OF STUDY

Age	Mode of Study		ES
	F/T	P/T	
23	86.4	37.6	22.6
22-29	7.7	28.0	27.7
30+	5.7	33.9	49.5
N.S.	0.2	0.5	0.2
TOTAL	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Table 5.1: COURSE LEVEL STUDENT NUMBERS ('000)

Course Level	Numbers
Doctorate or Master's Degree	24.5
Bachelor's Degree	136.9
Non-Degree	<u>13.4</u>
TOTAL	<u>174.8</u>

Table 5.2: MODE OF STUDY: STUDENT NUMBERS

Mode of Study	Numbers	Per Cent
Internal – full- time	106.8	61.1
part-time	51.5	29.5
External	16.5	9.4

Table 5.3: STUDENT BY AGE

Age	Per Cent
19 years and under	28.3
20-29	45.8
30-59	25.1
60 and over	0.8

Table 5.4: STUDENT BY SEX

Sex	Per Cent
Males	56.0
Females	44.0

Fig.1: NUMBER OF EXTERNAL ADVANCED EDUCATION STUDENTS

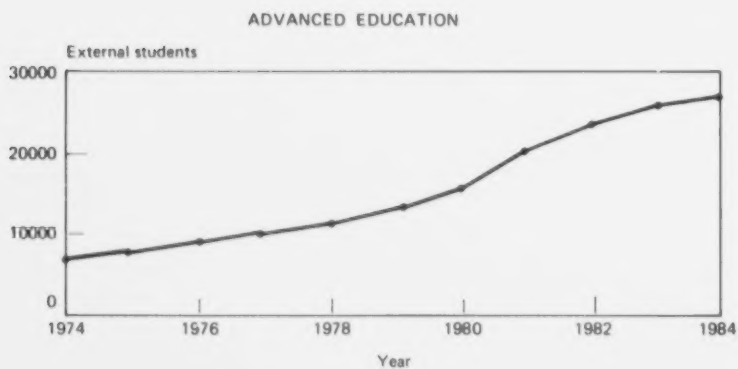
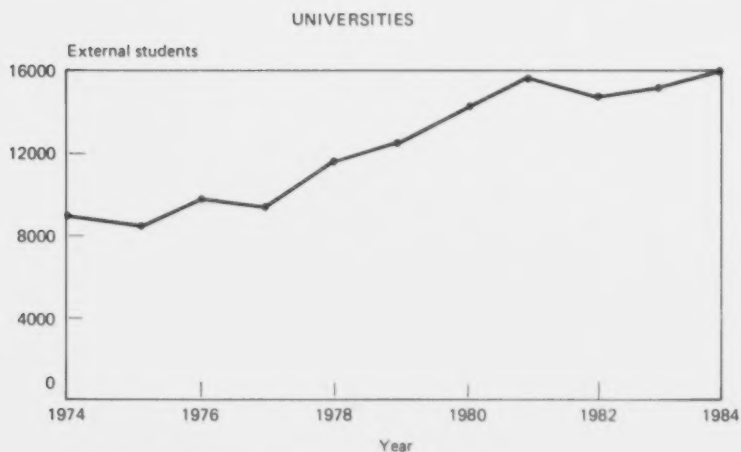


Fig. 2: NUMBER OF EXTERNAL UNIVERSITY STUDENTS



Source: Department of Education, Canberra, 1985

Distance Education in Bangladesh

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN THE COUNTRY

Bangladesh, with about 100 million population in about 144,000 sq km area has a low per capita income rate (about \$140) low literacy (about 24 per cent), high school dropout rates at the primary level (about 70 per cent) and inadequate educational facilities. It has a unilingual population with a homogeneous cultural background. It is a compact and flat land, covered easily by the national television and radio networks through ground relay stations. The school syllabus for the whole country is the same, enabling an effective use of mass media for educational purposes.

Until the start of the experimental full-fledged formal distance education program of Bachelor of Education (B.Ed.) by the Bangladesh Institute of Distance Education (BIDE) in July 1985, the concept of distance education in the country was confined to the use of mass media such as radio, TV, films, etc. as support services for both formal and non-formal education. However, recent thinking has changed so that distance education may be accepted as an alternative method parallel to the conventional system of face-to-face education.

A. Audiovisual Education Center

In the year 1956, the Government of East Pakistan received some wet battery-operated radio sets as gift from Japan. Of these, 200 radio receivers and 400 car batteries were allotted to the Education Directorate to distribute them among the educational institutions of the province. To handle the operation, a small "Audiovisual Cell" was created under the Education Directorate. The main objective was to look after the distribution and maintenance of the radio sets. Subsequently, in the year 1962, production of one 8-mm film and a set of silk screen printed educational charts led to the establishment of the East Pakistan Audiovisual Education Centre (AVEC) with broader objectives of printing and distribution of educational charts, development of 16-mm educational film and 35-mm filmstrip library, loan service and regular training of school teachers for the preparation and use of low-cost audiovisual education aids and materials. Subsequently, some transistor radio receivers were distributed among the schools and arrangement was made with Radio-Pakistan, Dhaka, for educational broadcasting. Up to the late 1960s, the film and filmstrips were borrowed by different educational institutions. They would borrow both the film projectors and

filmstrip projectors (operated with kerosene lamp) from the local United States Information Service (USIS). After the Liberation, USIS stopped lending the projectors and consequently, the AVEC was to limit its operation of films and a filmstrip library concentrating more on the distribution of wall charts and arranging educational broadcasting and short teachers' training programs.

B. School Broadcasting Program

In 1978, President Ziaur Rahman visited Japan and received a gift of 1,100 sophisticated audiocontrol console sets and ten mobile audio-visual vans. In November 1980, the School Broadcasting Programme (SBP) was approved by the National Evaluation Committee (NEC) as a project under the Education Directorate but independent of the AVEC. The elaborate formal program of regular school broadcasting was inaugurated on 1 January 1981. The complicated console sets were distributed in more than 1,000 secondary schools and regular educational broadcasting was undertaken. The mobile units were fitted with video-cassette recorder (VCR) and monitor but no production equipment was provided. Worldview International Foundation (WIF) loaned production equipment to the SBP for the production of educational video programs.

C. Development of Distance Education

A British Team from the Open University and British Council was invited to visit Bangladesh in November 1980, to discuss the feasibility of introducing the Distance Education (DE) program in Bangladesh. Mr. S. B. Edington of the British Council, London, submitted a report based on his exploratory visit and recommended the use of Mass Media in Education. Following the discussion with the British Team, a high level Bangladeshi Team visited the UK Open University, BBC, London University and UNESCO Headquarters, Paris, to study DE. It was agreed by the delegation that a formal DE system would be introduced in Bangladesh and accordingly funds were earmarked for the purpose in the Second Five-Year Plan (1981-1985). This was followed by another visit by a four-member British Team. The Team prepared a draft scheme on DE for Primary Teachers' Training and Training of the Mass Education Squads. The scheme appeared to be much too ambitious.

The main controversy was over the control of video production. Another drawback of the Plan was the complete exclusion of the two allied projects of the Ministry of Education, the SBP and AVEC. A developing country like Bangladesh cannot afford three media-based

projects with similar objectives. Consequently in April 1983, the SBP and AVEC were merged forming the National Institute of Educational Media and Technology (NIEMT).

The Ministry of Education dropped the ambitious Plan and revised it establishing the BIDE. The main objective of the project is to help the ten Teachers Training Colleges (TTCs) through media support for supplementing ongoing conventional teachers training programs and to continue educational broadcasting and repair and maintain the audio-control console sets. The distribution of educational charts, training of teachers for the use of audiovisual aids, showing educational video programs through mobile unit, etc. were continued.

D. B.Ed. Through Distance Education

Meanwhile, the local committee appointed by the Education Ministry for the feasibility of establishing a Bangladesh open university submitted its report indicating the potential for starting a Bachelor of Education (B.Ed.) course through DE as the first experimental phase of an open university. Being encouraged by the recommendation and seeing the technical potentiality of NIEMT under the Ministry of Education, the Ministry of Education gave financial support and encouraged NIEMT to start the experimental B.Ed. course through DE methods.

In the beginning of 1985, NIEMT was renamed BIDE and started functioning as a Project Evaluation Committee (PEC) approved project waiting for the final approval of NEC. No formal degree based on DE was awarded. Except the change in nomenclature, the field of operation of BIDE remained the same as it was in NIEMT.

It was decided that with some additional facilities and a modest fund, the experimental program of B.Ed. through DE could be started by BIDE under the academic protection of the University of Rajshahi. Several national level workshops were held to discuss the ways and means to conduct a teachers' training course through distance teaching. All the ten TTCs, the National Institute of Educational Administration Extension and Research (NIEAER), the Institute of Education and Research (IER) of the Dhaka and Rajshahi Universities joined hands with BIDE to start the experimental program.

It was decided that BIDE will operate the whole program and ten TTCs will be used as regional center and their facilities will be utilized during vacation and off time for tutorial service, summer school, etc. In 1985, applications were invited for the admission from in-service secondary school teachers. The response was enormous. More than 12,000 applications were received against 3,000 seats.

E. The Distance Education Program

In Bangladesh, the only system of formal distance education is that of the BIDE organized for the in-service training of school teachers leading to a postgraduate degree of Bachelor of Education (B.Ed.).

More than 70,000 teachers of about 8,000 secondary schools are still untrained. To train all of them through the conventional system is impossible because the annual intake capacity of the ten existing TTCs is about 3,000 students.

From an economic viewpoint, to increase the number of training colleges, does not appear to be a feasible proposition because if we are to spend a minimum of 60 million taka for establishing one conventional TTC, then for 20 additional colleges the expenditure will go over 1,200 million taka. Besides, there is the need for appropriate additional teaching staff and facilities.

There are other obvious advantages such as not having to disrupt normal school running by having teachers go away for training, or having residential training institutions.

F. Major Objectives, Target Population and Enrollment

1. Objectives and Targets

The following objectives have been visualized in the training of teachers in Distance Learning System in Bangladesh.

- (i) To carry on experimental program for conducting the B.Ed. degree course through distance education for 3,000 in-service secondary school teachers annually with an expectation of ultimate coverage for about 70,000 untrained teachers in the near future.
- (ii) To develop various distance education techniques, such as course materials, tutorial services, summer school system, student evaluation, etc. for executing the B.Ed. program through distance education.
- (iii) To develop proper infrastructure both in BIDE and in ten TTCs for executing the program.

2. Enrollment

The B.Ed. through distance education offered by BIDE is a program of two-year duration with annual intake in the month of July each

year. The enrollment is done through nationwide publicity. Fifty per cent of the seats is filled up on a "first-come-first-served" basis and the rest is filled up on the basis of the length of service. Due to the available limited hostel and academic accommodation in the ten TTCs used as regional centers per session, the number of students is to be kept to about 3,000.

In the first batch of July 1985, we had to take 3,211 students out of more than 12,000 applicants and in the next intake of July 1986, we took 3,288 out of about 20,000 applicants. The present role strength is 6,499.

3. Course Information

The conventional B.Ed. course of ten-month duration is extended in the distance education system over a two-year period. The whole period is divided into four semesters, each of six-month duration.

The curriculum and the syllabus for the course are the same as in conventional system with the following subjects:

- (i) *Compulsory*
 - (a) Principles of Education
 - (b) History of Education
 - (c) Educational Psychology
 - (d) Evaluation, Counselling and Guidance
 - (e) Education and National Development
- (ii) *Elective* (any two of the following)
 - (a) Mathematics
 - (b) Science
 - (c) Bengali
 - (d) English
 - (e) Geography
 - (f) Social Science (Economics, Civics and History)
- (iii) *Optional Subject*
 - (a) Educational Administration
- (iv) *Courseware and Support Services* – The following courseware, media materials and support services are available for conducting the B.Ed. program through distance education.
 - (a) *Print Media* – The major print media consists of four sets of reading materials written in modular form for each of the four semesters. More than 50 professional writers and

editors are given contract to develop suitable course materials. The printing is done through the commercial printers, under the supervision of the specialists of BIDE. Six-month reading materials of each of the subjects is bound in one volume.

- (b) *Audiocassettes* – To support the reading materials, especially for language teaching, each of the students is provided with 60-minute cassettes for each of the semesters of six-month duration. The content of the cassette is decided by the subject expert while the production and copying is done in the studio of BIDE.
- (c) *Radio Program* – To supplement the print media and also to meet the students' queries, a half-hour radio broadcast is arranged every week. Here also the content is decided by the subject experts and counsellors, and the production is done in the BIDE studio, whereas the broadcast is done by the National Broadcasting Authority.
- (d) *TV and VCR* – TV broadcast is expected to be started as support services, whereas videocassettes on microteaching, pedagogy, etc. produced by BIDE within its own limited means, is being used during summer schools in each of the ten regional centers.
- (e) *Tutorial Service* – Teachers of ten TTCs, NIEAER, IER, etc. are appointed as part-time tutors for coaching and guiding the trainees. The tutors are given modest honoraria for this purpose. BIDE arrange suitable orientation courses for the tutors and supply instructional materials to them. On second and fourth Fridays¹ of every month, tutorial classes are organized in ten TTCs. Besides, the tutors also guide them in practice teaching.
- (f) *Counselling and Guidance* – Besides the local tutorial guidance, a centrally-organized counselling and guidance service for individual distance learner is arranged by BIDE, through direct correspondence, radio programs, newsletter, etc.
- (g) *Summer School* – At the end of the second and fourth semesters, summer schools are arranged at the ten TTCs. In addition to the local tutors, a group of experts of IER, NIEAER, BIDE, etc. also attend the summer school to conduct face-to-face teaching.

¹ Friday is the weekly holiday in Bangladesh.

- (h) *Practice Teaching* – For smooth operation of practice teaching, suitable lessons are arranged through practical demonstration and with the help of videocassettes during the first summer school held at the end of the second semester. Throughout the period of the third and fourth semesters, the trainees continue their practice teaching in their own school under the supervision of the tutors.
- (v) *Production Facilities* – BIDE has its own modest facilities for the production of audio and videocassettes and still photography. The printing of question papers and other information materials is done through its own printing unit whereas the printing of regular bulletins and other course materials is done through the local commercial printing press.
- (vi) *Management and Financing* – The whole management of the experimental programs of B.Ed. through distance education may be described under the following broad headings:
 - (a) *Academic Management* – The University of Rajshahi is responsible for the academic affiliation of the program. The syllabus and curriculum including the academic management of the course are controlled by a three-tier system of the University of Rajshahi. They are the Faculty of Education, the Academic Council and the Syndicate. The students are registered with the University and on successful completion of the course, the degree is awarded by the University of Rajshahi. As a special case, the University has entrusted BIDE for day-to-day academic management of the program including development of course materials, management of the academic program and student evaluation.
 - (b) *Overall Management* – BIDE, a multimedia organization under the Ministry of Education, is solely responsible for the overall management of the experimental program. BIDE, with about 30 professional staff over and above its normal media service activities for both the formal and non-formal educational system of the country, has started this experimental program. Development, production and management of course materials and media support, management of radio broadcast, counselling and guidance, tutorial service, summer school, student evaluation management of 11 regional centers, computerized

record-keeping, etc. are the responsibility of BIDE. BIDE is also entrusted by the University of Rajshahi to register the students and conduct examination on behalf of the University. It is to maintain liaison among (i) the University authority; (ii) enrolled students; (iii) regional centers; (iv) national broadcasting authority; (v) the external course writers and tutors; and (vi) the Ministry of Education.

- (c) *Field Level Management* – BIDE has entrusted the existing ten TTCs and the NIEAER to work as regional centers. The principals of the ten TTCs and one senior staff of NIEAER have been working as part-time coordinator of the regional centers. About 126 specialists of these institutions have been working as part-time tutors. The coordinators, with the assistance of these tutors, in addition to their own duties, are to manage the field level operation of this experimental program.
- (d) *Financial Management* – BIDE, in addition to its own routine work has started this innovative experimentation for which no formal project is approved by the Planning Commission. The source of income is the small annual grant from the Ministry of Education and the students' fees. This year, the grant has been stopped and the support is to come out of its own income from students' fees and selling of printed course materials to the students of conventional B.Ed. programs. No full-time staff is appointed for the purpose. Coordinators, tutors, writers, editors, question setters, moderators, etc. all are paid modestly for their services. The University is paid 20 Taka per student as registration fees and 10 per cent of the examination fees for its academic responsibility. The salary of the staff of BIDE, including the Director, is paid as usual from BIDE's own allocation but the contingency expenditure including the fuel cost, production and management, and support materials are met out of B.Ed. fund generated as mentioned above.
- (e) *Staff Development* – About 6,500 post-graduate level students are taught by part-time services of teachers who have their responsibilities in their various parent organizations. BIDE being a media-based organization, its staff is, to some extent, trained for media production. The National Institute of Mass Communication (NIMC) is

also helping BIDE to train its staff for audio/video program production. Besides, local workshops and seminars are arranged for training in course writing, tutorial services and electronic media production.

(vii) *Mode of Operation* – The experimental program consists of four semesters' work spread over two years as against ten months in the case of conventional teachers' training colleges. The curriculum and syllabus remain the same as in the traditional system and are in conformity with programs of TTCs. These are used as regional centers, and schools wherefrom the teacher-trainees are recruited. The session is started in July so that at the end of every semester of six-month duration, i.e. in July (summer vacation) and December (winter vacation), the TTC campuses with their facilities are available for the business education students.

(a) *Admission* – Admission takes place once a year. Application for admission is centrally invited by BIDE through open advertisement. On the basis of the existing capacity for the conventional students of ten TTCs, seat allocation for the students is decided for each of the regional centers and admission is arranged regionally through central management.

(b) *Academic Operation* – Tutorial services are arranged in each of the regional centers on the second and fourth weekly holiday of each month. Attendance is optimal. Students unable to attend the tutorial class may write directly to BIDE for assistance and guidance. A half-hour weekly radio broadcast is also provided for the students. To avoid the complexity of regular tutorial marking, centrally organized, computerized, objective tests are conducted at the end of each semester and an essay type of test is held at the end of the third semester. There are also practical and oral examinations at the end of the last semester. All the terminal examinations are arranged by BIDE in each of the 11 regional centers. Summer schools are arranged at the end of the second and fourth semesters in all the regional centers with special emphasis on training the students on how to write effective lesson plans and to conduct efficient practice teaching. A short winter school at the end of the third semester is also arranged to follow up the practice teaching.

(c) *Delivery System* – To avoid postal failures, course materials for each semester of six-month duration are delivered by hand through each regional center at the time of admission and the first three terminal examinations.

(viii) *Cost-Effectiveness* – The first batch of students of B.Ed. through distance education has started their academic program with effect from July 1985 and the first cycle of operation will be completed in June 1987. Until then, it is too early to come to any conclusion on the subject of cost-effectiveness. However, a rough calculation indicates that per capita investment from public funds may be about one-fourth that of the conventional system.

(a) *Strengths and Weaknesses*

(i) *Strengths* – The strength of the distance education system may be summarized as follows:

- Self-instructional materials provide a more consistent quality of instruction than the more erratic lecture system in face-to-face teaching.
- Unlike traditional lectures, learning and teaching materials do not have "off" days.
- Traditional lectures range from charismatic performances by outstanding teachers to the legendary transfer of the contents of the lecturer's notes to the students' notes without passing through the minds of either.
- Students liberated from the constraints of the traditional lecture and tutorial system are free to use the materials as resources in their own way and in their own time.
- The authoritarian element in teacher-student relationships stands mellowed down in distance education.
- The teaching-learning process takes place in a serene and disciplined atmosphere.
- Printed course materials developed for distance education is now being treated as valuable assets by the trainees of traditional B.Ed. programs.
- The malpractice proof examination system developed for the purpose has inspired the education authority to modify the traditional age-old examination system of the country.

- Computerized record-keeping and quick result publication has ushered in a new era in academic management.

(ii) *Weaknesses*

- Field level practice teaching needs further supervision.
- TV broadcasting could not be arranged to supplement the attendance of the students in tutorial classes.
- More powerful radio broadcasting is needed for distant areas.
- Central management needs specialized staff and more accommodation.
- Video production is done with borrowed equipment.
- In place of the short-term uncertain experimental program, long-term properly planned project with staff and facilities is needed.
- Proper accommodation and support service are not available in BIDE's present temporary location in Dhaka Teachers Training College Buildings.

(ix) *Resource Utilization and Investment Needed*

- (a) *Resource Utilization* - The main aim of the experimental program is the "optimal utilization of the available resources." From the very beginning, proper care is taken to use the off-time facilities of the concerned educational institutions. BIDE, in addition to its own media service operation, has been shouldering the main responsibility of executing the program. The staff salary of BIDE is paid out of its own fund whereas other operational costs for B.Ed. through distance education is being met out of fees collected from the students. Off-time facilities of library, laboratory and academic resources of the ten TTCs and NIEAER, along with the teaching and other staff, are being used. Thus the appointment of full-time subject specialists and academicians is avoided. Most of the course materials are developed and produced on contract basis by the experts engaged in their own professions. Coordination and supervision is the main responsibility of BIDE's staff.

- (b) *Investment Needed* – The experimental program definitely needs a well planned set-up with proper accommodation and hardware-software facilities. Growing demands for admission (12,000 applications for the 1985 course and 20,000 applications for the 1986 course) clearly indicate the popularity of the program.
- (x) *Problems in the Implementation* – The main problem of implementation is the traditional conservative attitude of the top level educational planners of the country. Formal institutionalization of the experimental program is badly needed.

Strategy – The success of the Universal Primary Education Program, it is apprehended, will exert pressure at the secondary and tertiary education in the near future. Moreover, due to population increase, the number of candidates at secondary levels will certainly increase. In 1983, the number of successful candidates in Secondary School Certificate (SSC) and Higher Secondary School Certificate (HSSC) were 122,000 and 55,000 whereas this year, the number has increased to 242,000 and 115,000, respectively. This clearly indicates that in the coming years, more accommodation will be needed in tertiary and vocational education. For the last few years, more than 100,000 students are being refused the University admission for want of seats. Out of the successful HSSC examinees of this year, about 80,000 possess at least one first division or two second divisions, which means that they are eligible for admission in the Honors Classes or Engineering or Medical Colleges. But altogether, the available seat capacity in all the seven universities, engineering or medical colleges, is about 30,000 only. This means, this year about 50,000 talented students will be deprived of their admission in suitable courses. That will definitely create frustration in the minds of these younger citizens. This in turn may create social problems too. Moreover, since Independence, the University sessions in the conventional education system are being delayed by years together, causing enormous problems to the students, guardians and society. The situation in the field of technical as well as in vocational education is more alarming.

The Ministry of Education appointed an expert committee in 1983 to find out a suitable solution. The committee submitted a comprehensive report² in April 1984.

The committee also studied the ways through which the neighboring countries such as India, Pakistan, Sri Lanka, Thailand, etc. have been tackling the situation. In all these countries, it was found that the establishment of an Open University has relieved the problems.

² Report on Bangladesh Open University, Ministry of Education, Bangladesh

EDUCATIONAL STATISTICS (1985)

A. Population as of 1985 (in thousands)

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	100,054	2,840	16,628	12,887	20,290	13,806
Male	51,546	1,492	8,571	6,770	10,467	7,254
Female	48,508	1,348	8,057	6,117	9,823	6,552
Rural	85,046	2,414	14,133	10,954	17,254	11,742
Urban	15,008	426	2,455	1,933	3,036	2,064

B. Educational Institutions

Enrollment (1985)

1. Primary Schools

		Number	Boys	Girls	Capacity	Teachers	
						Trained	Untrained
Total	44,200	8,920,292	5,291,475	3,628,817	8,840,000	183,200	15,028
Rural	41,317	5,342,708	4,944,296	3,398,412	8,263,400	168,785	14,000
Urban	2,883	577,584	347,179	230,405	576,600	14,415	1,028

Enrollment (1985)

2. Secondary Schools (Grades VI-XII)

		Number	Boys	Girls	Capacity	Teachers	
						Trained	Untrained
Total	9,589	2,655,379	1,803,161	852,218	2,397,250	20,306	75,000
Rural	9,039	2,373,061	1,620,946	752,115	2,177,250	10,000	60,000
Urban	550	282,318	182,215	100,103	220,000	10,306	15,000

3. Degree Colleges

Enrollment (1985)

		Number	Boys	Girls	Capacity	Faculty
Total	366	376,309	304,892	71,417	339,800	11,119
Rural	246	221,400	201,075	20,325	196,800	
Urban	120	154,909	103,817	51,092	143,000	

4. Universities

Enrollment (1985)

		Number	Boys	Girls	Capacity	Faculty
General	4	34,444	26,541	7,903	25,000	1,976
Technical	1	3,296	3,136	160	3,000	328
Agriculture	1	3,990	3,759	231	3,500	401

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Page 2

Enrollment (1985)					
5. Professional Colleges	Number	Boys	Girls	Capacity	Faculty
Medical 8	8,245	7,951	2,054	8,000	30
Engineering/ Technology 4	1,703	1,682	21	1,600	175
Agriculture 2	798	767	31	600	91
Teacher Training					
- Primary Teacher Training 51	8,303	6,453	1,850	10,000	355
- Secondary Teacher Training 10	3,000	2,050	950	2,500	136
- BIDE 1	3,211	2,827	384	3,000	12

Enrollment (1985)					
6. Technical/Vocational Training Institutes	Number	Boys	Girls	Capacity	Teachers
Polytechnics 18	11,881	11,499	382	11,500	909
Technical Textile-1	484	478	6	450	23
Training Graphic-1	117	117	-	100	20
Centers Ceramic-1	49	48	1	50	9
Commercial Institutes 16	3,620	3,401	219	3,600	111
Vocational Training Institutes 54	4,300	3,850	450	4,300	383

Enrollment (1985)					
Others (specify)	Number	Boys	Girls	Capacity	Teacher
Cadet Colleges 10	2,977	2,683	294	2,500	255
Music Colleges 1	147	70	77	150	29
Physical Edn. 2	307	258	49	300	29

7. National Education/Training Institutes

Besides the abovementioned training institutions there is one Institute of Education and Research under Dhaka University, one National Academy for Primary Education, one National Institute of Educational Administration, Extension and Research (NIEAER), one Bangladesh Institute of Distance Education (BIDE), two Colleges of Physical Education and a Technical Teachers Training College under the Ministry of Education.

***Distance Education and Status of Broadcasting,
Printing, Postal Services in the Country***

1. *Distance Education Institutes* – The only formal distance education program run so far in the country is that of Bangladesh Institute of Distance Education and there is only one course, i.e. B.Ed. through Distance Education.
2. *Radio Facilities (Production and Broadcasting Facilities for Education Programs)* – Reasonable Facilities are available with National Broadcasting Authority and modest production facility is with BIDE. Daily about 70 minutes educational broadcast is arranged.
3. *TV Facilities (Production and Broadcasting Facilities for Educational Programs)*
 - Total Capacity – About one hour program per week
 - Level of Utilization – Non-formal
 - Scope for Expansion – Limitation of fund and physical facility
4. *Number and Percentage of Electrified Villages* – About 4,100 villages of Bangladesh are electrified. The percentage is about 6 per cent.
5. *Status of Printing Facilities in the Country* – Quite good facilities in the private sector is available.
6. *Postal Services in the Country* – Modest postal network is available all over the country.

***Manpower Requirements of the Country as
Projected in Development Plans***

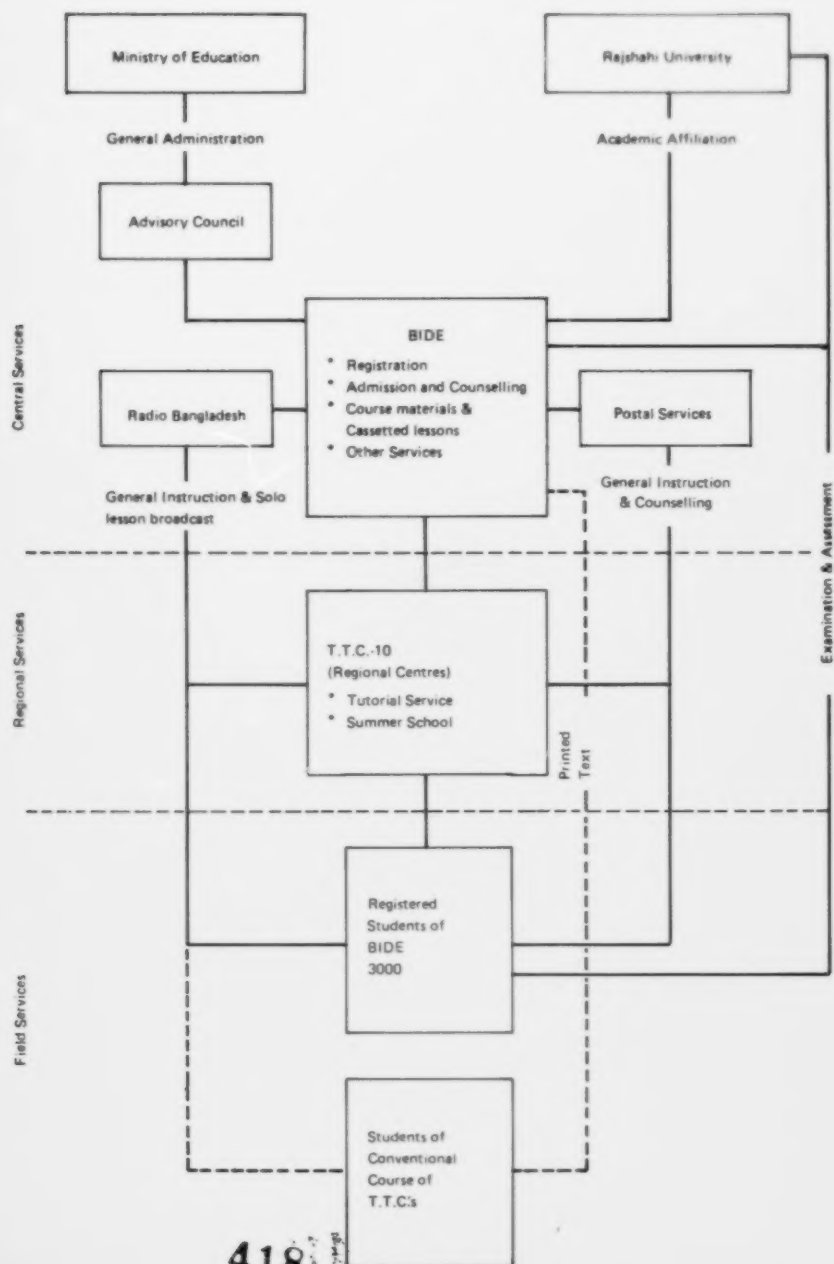
(In thousand man-years)

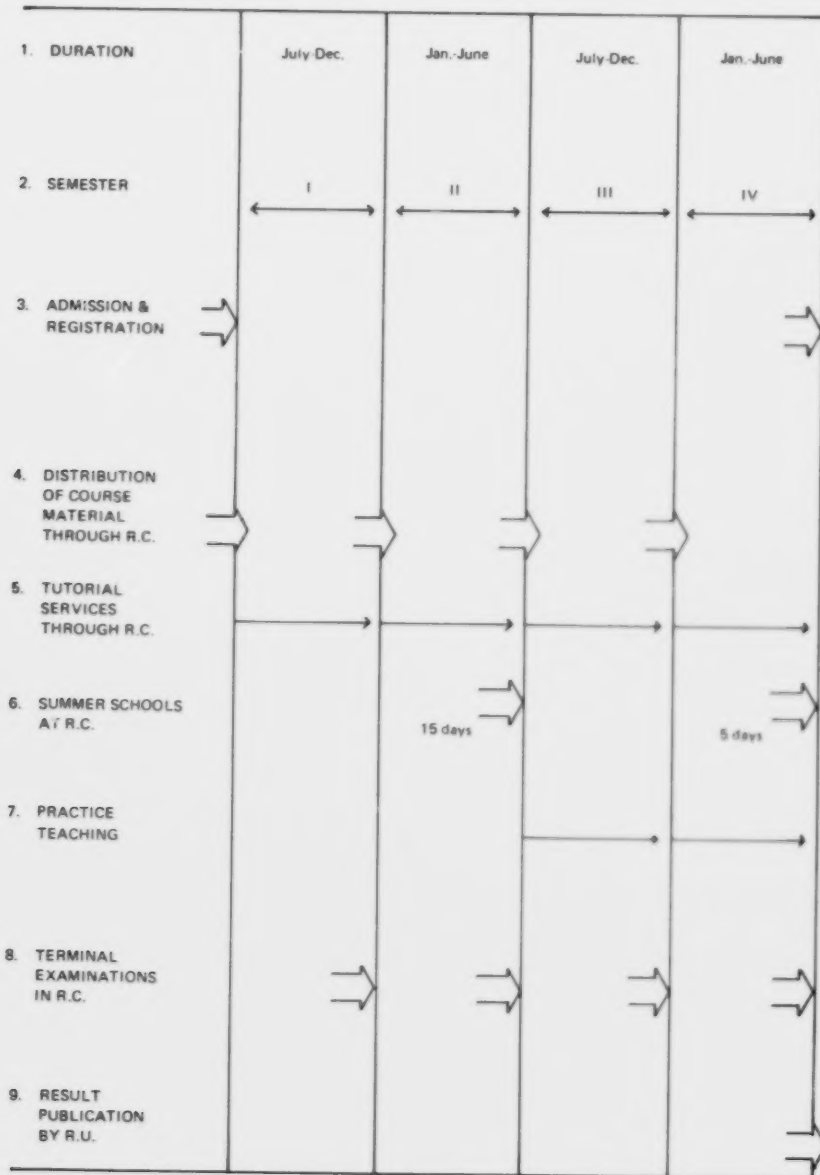
Sector	1984/85 (Benchmark)
1. Agriculture	11,640
2. Industries	1,900
3. Public Utilities	11,690
4. Construction	590
5. Public Services	2,000
6. Trade and others	1,470
Total	19,290

Data Sources:

- (1) The Third Five-Year Plan (1985-90)
Published by Planning Commission
Ministry of Planning
Dhaka, Bangladesh
- (2) Bangladesh Population Census 1981
Analytical Findings and National Tables, August 1984
Published by Bangladesh Bureau of Statistics
- (3) Educational Development in Bangladesh 1980-85
Edited by S.A. Choudhury and Delwar Hossain
- (4) Third Five-Year Plan (1985-90)
Education Sector Document, October 1985
Published by Ministry of Education
- (5) Educational Statistics of Bangladesh, 1985
Published by Bangladesh Bureau of Educational Information and Statistics

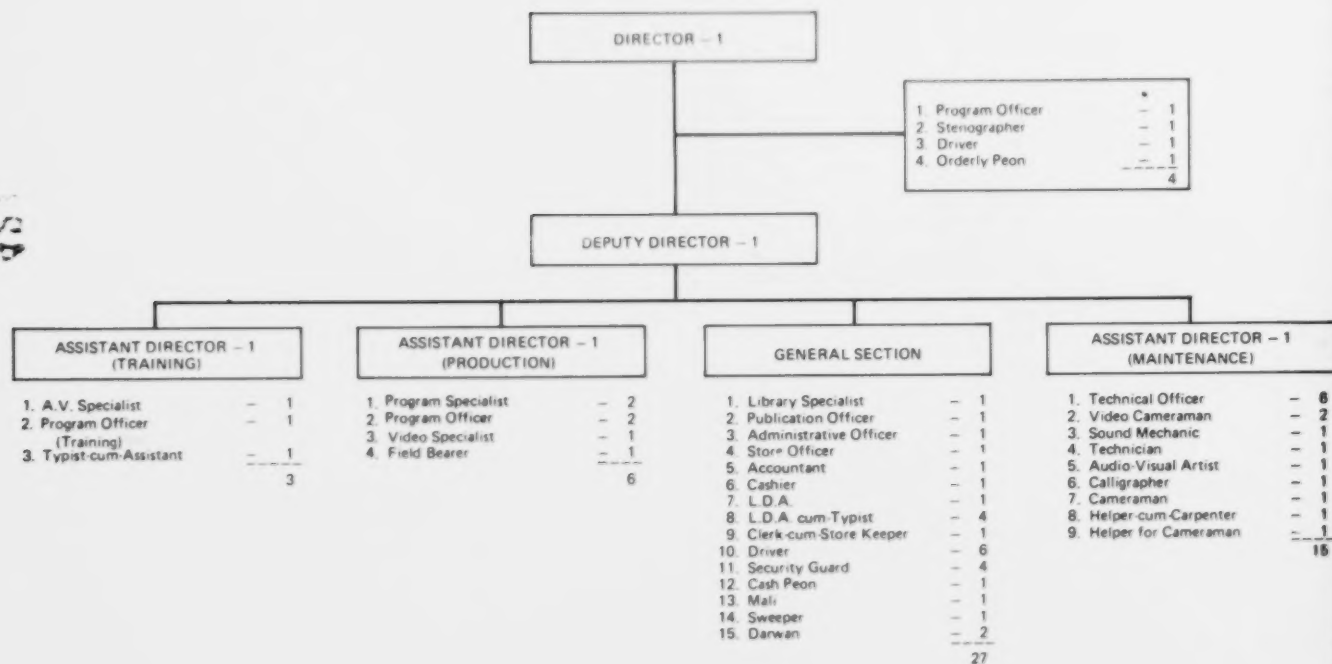
OPERATION OF B.Ed. COURSE THROUGH DISTANCE EDUCATION



A FULL CYCLE OPERATION OF B.Ed. THROUGH
DISTANCE EDUCATION

R.C. — Regional Center
R.U. — Rajshahi University

STAFFING PATTERN OF BIDE PROJECT



Distance Education in Bhutan

Zangley Dukpa
Department of Education
of the Royal Government
of Bhutan
Thimphu, Bhutan

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN THE COUNTRY

Bhutan's education introduced centuries ago was purely monastic. Modern education was introduced in the fifties and several schools were opened in the early sixties. The Government has accorded a high priority to education as a basic need in the firm belief that it is a prerequisite to the development of human resources to meet the country's requirements of educated and trained manpower which directly contributes to economic growth.

The Government's continued commitment to the development of education is evident from the comparative figures detailed below:

	<u>1961</u>	<u>1986</u>
(i) Number of institutions	59	198 (schools only)
(ii) Enrollment	1,500	54,452 (pp. to Cl. X)
(iii) Teachers	93	1,934
(iv) Government expenditure	0.504m	114.855m

In spite of impressive achievements the Government has made in the field of education, it is deplorable to note that the school enrollment ratio is about 20 per cent only. In other words, 80 per cent of school-going children do not have access to education. This can be attributed to numerous constraints, one of which is the acute shortage of teachers. The majority of teachers are either underqualified or untrained.

Out of the 20 per cent of school-goers age enrolled, hardly 5 per cent go to college. The dropout rate is high in the primary and lower secondary schools. Because of ample job opportunities, most of the school dropouts get absorbed in government service. While many countries in the world encounter unemployment problem, Bhutan faces acute shortage of manpower, particularly skilled manpower. The trend is slowly changing. With the increase of schools, employment is becoming more competitive. There are more graduates from colleges and universities. There will be, however, no dearth of jobs in the foreseeable future.

In the sixties and early seventies, most of the students left schools to join government service which they found educationally attractive. They now regret leaving schools as they see the educational limitation on their promotional prospects. On the other hand, many organizations staffed by underqualified personnel find it difficult to cope with the increasing demand.

With the rapid proliferation of schools both in number and size, the

Government is compelled to recruit and appoint underqualified and untrained teachers. However, it is very encouraging to note that an appreciable number of teachers and the civil servants, who aspire to improve their qualifications and competence in their chosen fields, are improving their qualifications through correspondence courses offered by colleges and universities in India solely at their own initiative and expense.

The concept of distance education in Bhutan is new albeit some activities do prevail in the country. Correspondence courses, radio programs on health education, family planning, animal husbandry, etc. are some instances of programs which can be termed as distance education in the country.

Aspiring and ambitious civil servants including teachers, particularly those who are at the lower and middle rungs of organizations, pursue their higher education through correspondence courses offered by Indian colleges and universities. For teachers, the need for undergoing such courses is quite obvious as salary structure is based on academic qualifications. Owing to lack of facilities in the country, teachers opt to undergo correspondence courses offered by Indian colleges.

Apparently, the standard of courses, say B.Ed., differs markedly from college to college. But teachers who do B.Ed. courses from Bhuvaneshwar, Orissa, are found to be comparable with any other conventional B.Ed. courses.

Due recognition used to be given to all teachers who improved their qualifications through correspondence courses. In the course of time, increasing number of teachers, who were mainly expatriates, began to produce certificates obtained through such courses. The Government faced a dilemma with regard to recognition of such certificates as it was rumored that they were obtained through illegal means, i.e. without undergoing any course. There is, thus, a need to properly organize and coordinate the correspondence courses.

Many working people, who could not have the opportunity to continue their higher studies, are interested in any form of study that would help them to improve their qualification without leave of absence. Distance education should not, however, be misconstrued that it only caters to improvement of qualifications. In fact, it

"... can be a vehicle for lifelong learning that need not be geared towards qualifications or re-entry to formal school system" (UNESCO, 1985, p. 38).

In line with the concept of distance education quoted, the Bhutan Broadcasting Service (BBS) broadcast certain programs on basic health care, animal husbandry, forestry, agriculture, etc. These programs are intended for arousing awareness in the people, particularly the rural populations. Such programs have been on the air for the last ten years or so. The impact is yet to be measured. The BBS, with the setting up of Audience Research Programme Cell, hopes to monitor and evaluate the impact of the radio programs.

The radio is presently the only means of communication that can reach every nook and corner of the mountainous country. Television facilities are almost non-existent.

The above is a brief review of activities which can be termed as distance teaching. The targets identified include teachers, adults and other groups as elucidated in the following paragraphs.

A. Teacher Education

As indicated in the preceding passage, majority of existing teachers are underqualified and untrained. Like in some other developing countries, the Government was and is compelled to recruit untrained and underqualified teachers. They are considered to be the main target group.

B. Adolescents and Adults

Programs will identify the age group who could benefit from the radio. The group will include early school dropouts and non-school entrants, ages ranging from 10-20 years. Special programs will be required for educating this group of adolescents and young adults.

C. Extension Workers

Experiences indicate that the people in rural areas cannot be easily reached. Programs on functional literacy may be broadcast over the radio, but there is no measure as to whether farmers in the rural areas listen to radio. They may not have radio sets at all. The Ministry of Communication is planning to introduce an audience research program and the Government is also planning to give radio sets to farmers at subsidized rates. It is also difficult to convince people through short programs over the radio. It is felt that training of extension workers,

who are key people in the villages, may be required. Thus, the third priority target group could be the agricultural extension workers, basic health workers, veterinary field assistants, etc. Obviously, farmers are another target group.

D. Parents

The need for parents' participation in the education of their children in formal schools is felt to be necessary. Parents will thus be another category of target groups.

E. Working People

Distance education programs will also aim at the creation of facilities for those working people who would like to pursue further studies. For this particular group of people, it may be necessary to develop a sort of relationship with selected Indian colleges which offer courses through distance education.

F. Teaching of Dzongkha

There are three ethnic groups, namely: Nepali, Ngalongpa and Sharchogpa, speaking different languages. Dzongkha, the language of the Ngalongpa, is the national language which is taught in schools as a compulsory subject. Since it is the official link language, it is being taught to the non-Dzongkha-speaking people. Non-Dzongkha-speaking people are also, therefore, target group.

FACILITIES FOR DISTANCE EDUCATION

It is essential to delineate the plans and programs of the Ministry of Communication under which several departments are established such as Department of Posts and Telegraphs, Department of Telecommunications and Department of Information which are again, compartmentalized into divisions. The Department of Information plays a vital role in disseminating information to the people. Thus, the discussion in this paper will be confined to the Department of Information, particularly the Bhutan Broadcasting Service (BBS) and Development Support Communication Division (DSCD).

A. Radio Broadcasting

Historically, the broadcasting program was initiated by the National Youth Association of Bhutan (NYAB). It used to be managed and administered by the NYAB till the Government took over a few years back. The existing radio station has a transmitting capacity of only 5kw. Plans are in the pipeline for setting up of 50kw station. The officials from the Ministry of Communication and the Bhutan Broadcasting Service (BBS) assert that the 50kw station will be operational from April 1987. This turnkey project is co-financed by the Indian Government under the bilateral grant.

With the setting up of a new studio complex and 50kw station, it is proposed that broadcasting time be increased from three to nine hours a day. This project envisages the distribution of small radio receiver sets at subsidized rates to the rural population. Inevitably, broadcasting is required to have systematic programs for nine hours. The BBS plans to cover all aspects of activities geared to both rural and urban populations. Emphasis is given to the educational program.

In this respect, the author had an informal discussion with the Deputy Director who is in charge of BBS and her staff regarding the inclusion of distance education in the normal programs. She welcomed the idea of distance education. Hence, unlike in other developing countries, there will be no problem of time allocation by the BBS to the distance education program. "In fact, we are running short of programs," declared one of the BBS officials. They are planning to enhance the programs on primary health care, basic agricultural knowledge, animal husbandry, etc. which fall in the category of non-formal distance education.

B. Development Support Communication Division (DSCD)

In the sphere of development activities, the DSCD plays an important role in the dissemination of information. Its functions and objectives are attached as Appendix A. Further, the Division is fairly well-equipped for production of communication materials such as films, slides, videos, posters, etc.

C. Telecommunications

Thimphu has already microwave facilities which facilitate the linkage of the country with other countries. The Ministry of Communication

has already completed the preparation of the Master Telecommunications Plan to be implemented during the Sixth Plan.

- (i) Installation of microwaves in other cities and towns;
- (ii) Installation of electronic digital exchanges. Among others, the installation of microwaves and electronic digital exchanges aims to:
 - (a) link the East, West and South through the national switching network at Thimphu; and
 - (b) connect and link Gewogs (block consisting of clusters of villages) to the Dzongkhag Headquarters through the rural telecommunication networks, one of which will be Multi-Access Radio Relay (MARR). The Department of Telephones appears to be committed to replace the existing older facilities with the electronic digital exchanges in order to keep pace with the changing technology;
- (iii) *Television Facilities* – unlike in most of the developing countries, Bhutan lacks television facilities. However, video facilities are available. The Government is planning to create the television facilities from the beginning of the Seventh Plan.
- (iv) *Satellite Facilities* – the Government is seriously and prudently studying the need and feasibility for installation of a satellite. The country being mountainous, satellite technology has greater possibilities. It appears that out of three Earth Station Standards, the standard "B" seems to be more suitable for the country. Obviously, it will take quite some time to create such facilities. In addition to the above, there are some private firms and studios which produce audiocassettes, videocassettes, films, etc.

ORGANIZATIONAL STRUCTURE

The Directorate of Education will coordinate all the distance education programs. The Social and Cultural Division of the Department is presently responsible for all training activities. This Division may be delegated the responsibilities of all activities and programs pertaining to distance education. A separate cell staffed by trained personnel may be required to be set up within the Division. Its function will be to plan, program and coordinate distance education activities in close collaboration with the BBS. Distance educators will be selected from a pool of experienced teachers and lecturers from high schools and colleges. DSCD is also staffed with adequate numbers of trained personnel in the

production of instructional materials, such as audiocassettes, print materials, etc. Undoubtedly, the distance education programs demand a lot of coordination and cooperation between various organizations concerned. It should not, however, pose a serious problem as the country's Sixth Plan stresses the need for integrated approach to development activities. The introduction of the Integrated Rural Development Centre (IRDC) is very conducive to the implementation of distance education programs. The proposed IRDC can be rationalized and legitimized as the distance education centers for IRDC will have all modern amenities and facilities. These centers will facilitate consultations with instructors and tutorial sessions, particularly for organizing face-to-face classes for distance learners.

FINANCE

With regard to the financing of existing distance education programs, many teachers and young civil servants are doing correspondence courses at their own expense except in some cases where the Government has paid tuition fees. No detail is available with regard to expenditure incurred for programs on basic health care, animal husbandry and agriculture. Equipment such as cameras, videos, etc. in BBS were aided by the international agencies. No special fund, in fact, is provided for the stated programs. Salary and travelling allowances of the staff working in the BBS are normal recurrent expenditures financed by the Government.

In the case of DSCD, UNICEF and UNESCO are aiding the Division in terms of provision of equipment, training of personnel and so on. Owing to lack of proper data, it is very difficult to review and analyze the financial investment, both capital and recurrent, in the distance education.

The requirements of the new financial investment are detailed hereunder:

- (i) Setting up of a cell or division of distance education will require office rooms, program production rooms and so on.
- (ii) Equipment like radios, cassettes, cameras, etc. will be required.
- (iii) Training of personnel.
- (iv) Salary of staff.
- (v) Production of instructional materials.
- (vi) Accommodation for the staff.
- (vii) Transport and travelling facilities.

PROBLEMS AND ISSUES

Most of the students undergo correspondence courses offered by Indian colleges and universities in India. Obviously, courses are limited to few disciplines, notably Arts and Education. The majority of the teachers, mainly Indian, have improved their academic qualifications through correspondence courses. The Government faces a dilemma with regard to the recognition of certificates, diplomas and degrees obtained through these courses. Obviously, they are deemed to be not only second-rate degree or diplomas but also, they are largely obtained through illegal means. In the case of non-recognition of such degrees, teachers are discouraged to improve their qualifications and teaching competence.

With regard to programs on functional literacy broadcast over the radio, there is lack of a mechanism for proper evaluation and monitoring. Further, the existing 5kw station does not reach all parts of the mountainous country. Reception is very poor. Moreover, most farmers in rural areas do not have radio sets. The Government is, however, planning to address this issue by setting up a 50kw station to increase the coverage, and the plan to distribute small radio sets at subsidized rates to the rural population may, to some extent, resolve the problems.

The following are the problems and issues foreseen for the introduction and implementation of distance education:

- (i) There is a lack of trained personnel to develop distance education curriculum and necessary materials.
- (ii) Distance educators hailing from conventional system will have to play new sets of roles. They will be required to reorient and retrain for their changed tasks. The requirement of qualified producers, scriptwriters, technical staff and presenters poses a serious problem.
- (iii) Production of good materials for distance education will involve financial investment. The Government is willing to invest in such ventures, but still finance will remain a constant problem. Thus, funding must be assured to make the distance education programs self-sustaining and viable.
- (iv) Distance education is, no doubt, ideal for a mountainous country like Bhutan, but it will be very difficult to get feedback and written responses from distance learners because of communication problems. The postal facilities are limited to urban and semi-urban areas. In rural villages, the dependability and reliability on the postal services is very questionable. Experiences indicate that letters either get lost or reach

their destination too late. Printed materials for distance learning may not arrive on time and there is every possibility of loss of materials.

- (v) *Mass Communication Technology* – In spite of the limited and poor postal facilities, greater reliance may have to be placed on correspondence methods rather than on other media. Mass communication technology, such as television, telephones and radio, are very limited. The country is yet to attain the desirable degree of progress in this field though there are plans to bring about improvement.
- (vi) *Language* – Course materials for distance education geared to parents, adults and farmers will be written and prepared in three languages. Translation is usually a difficult job.
- (vii) Identification of age groups for non-formal education will be a problem in the sense that the distance education planners cannot make village-to-village and house-to-house visits.

SCOPE FOR FURTHER EXPANSION IN THE COUNTRY

A. Teacher Education

With the launching of the first Five-Year Plan, many primary schools were opened and the Government was compelled to recruit and appoint a large number of underqualified and untrained teachers. There are about 1,700 teachers working in primary schools interspersed in the mountains. For a long time, emphasis was on the expansion of the school system. Recent years saw the trend drifting towards qualitative improvement of the system. Inevitably, the improvement of school systems largely, if not entirely, depends on the quality and competence of teachers. Thus, there is a need for professionalization of teachers through various forms of training and studies. Several in-service courses have already been organized during the vacations. Not surprisingly, many teachers are reluctant to attend the in-service courses during the holidays. Evidently, the headmasters and teachers of 12 pilot schools, who attended the New Approach to Primary Education (NAPE) Workshop held in Thimphu recently, i.e. 3-6 August 1986, recommended that in-service training should not be organized during the holidays. Organization of in-service courses during the holidays inevitably deprive the teachers of their legitimate vacation. It is still worse to organize such courses during term-time or working sessions as most of the classrooms would be without teachers. Experiences explicitly show that once a

week in-service course or workshop results in absenting the teachers from classes for about a month. This increases the shortage of teachers. The only suitable alternative is to train teachers through distance education. It will not only cover a large number of teachers but more importantly, the teachers will not be absent from their duties. Print materials and radio broadcasting could be used as supplementary and complementary to each other. Short time face-to-face lessons at the proposed study centers could be organized by the mobile team of teacher trainers so that opportunities are made available for clarification of any issues and doubts.

B. Higher Education

In addition to training of teachers in pedagogical skills, there are many young people or adults including teachers who could not continue their studies for socioeconomic reasons. Opportunities for higher education are limited. When verbally and informally interviewed, a number of young working people showed tremendous interest in the proposed distance education program. In short, many working youths are longing to continue their higher education. Distance education will, therefore, not only give them opportunities for further studies, but it will also help them to improve their competence and performance. This may help to eliminate the existing problem of underemployment in some sectors. Choices of courses may be carefully designed so that they are directly relevant to the students' needs and callings. Designing the courses for higher education for various disciplines is an uphill and formidable task. It may be more economical to use the facilities of Indian colleges and universities which offer correspondence courses. The distance education administration unit could coordinate between the interested students and the Indian colleges.

C. General Education

There are more than 75 per cent school-going age (6-19) in the country not attending the formal schools. This includes the early school dropouts. The dropout rates in rural areas is comparatively high. In some districts, it is 40 per cent. One of the reasons is similar to that of Indonesia:

"... Indonesia has an initial participation rate of about 90 per cent at the primary level but throughout the course of primary level, it suffers a dropout rate of 40 per cent as parents

become more and more dependent on their children to help them in the fields." (UNESCO, APEID, 1984, p. 32)

In rural areas in Bhutan, parents continue to depend on the little help their children render in the fields, with household chores, in looking after cattle, etc. In urban areas, the situation is the reverse in the sense that school authorities are constantly pressured for the admission of new children against the acute shortage of classroom spaces.

Formal schools cannot cover all the adolescents and adults in the country. There is no other alternative but to give general education which may also be termed as non-formal and adult education under the distance education system, in line with the national aspiration of making a literate society.

The existing non-formal education, organized by NIE, Samchi for this particular target group, can be strengthened following the examples of other Third World countries, including communist countries. Non-formal education appears to be very successful in communist countries. The methods and processes of such education may be of great significance while the contents will markedly differ.

There is, however, a danger that the adults with some education tend to migrate into the modern sector with a hope for a better life. For instance, the Government launched village skills development projects in 1983 and several young villagers from various Dzongkhags, who were mainly school dropouts, were trained in various trades, such as plumbing, masonry, electricity, etc. Regrettably, most of these men joined the modern sector in urban areas – depriving the rural areas of such manpower facilities.

D. Parent Education

Traditionally, the parents, particularly in the rural areas, play a very small role in the education of their children. There is a saying in Bhutanese, "Parents' duty is to give birth to children and it is the duty of teacher to bring them up." The participation of urban parents, too, is almost non-existent.

The Department of Education could design a program for parent education in close collaboration with the National Women's Association of Bhutan (NWAB), which is a well-established and influential association in promoting the women's education and other income-generating activities, particularly for village women.

E. Functional Education

There is plenty of scope to enhance and strengthen the existing programs on agriculture, animal husbandry, health and hygiene, etc.

In Bhutan, the Ministry of Communication has wisely decided to set up the Audience Research Program Unit attached to the Bhutan Broadcasting Service. One of its main functions will be to monitor and evaluate all radio programs.

F. Teaching of Dzongkha, the National Language

Dzongkha, the national language, is taught to non-Dzongkha speaking people, mainly in Southern and Eastern Bhutan through the adult education system, while it is taught as a compulsory language in formal schools. According to reports received from various adult education centers, the program is not successful because of the following factors:

- (i) Both working people and villagers attend such classes in the evening after their tedious and taxing day's works;
- (ii) They attend the classes for the sake of attending as the attendance is almost compulsory;
- (iii) Contents are difficult and teaching methodology is boring;
- (iv) Time factor; and
- (v) Lack of interest in the program.

This adult education can be incorporated in the distance education program following the examples of "Keep up Your English" (Australia Radio), and "Learning Mandarin by Radio" (Singapore Broadcasting Corporation).

The Dzongkha Development Division will be delegated the responsibilities of designing the program and instructional materials for the teaching of Dzongkha.

All the areas to be covered under the distance education have been thoroughly discussed with the Director of Education, divisional heads and with the other department officials concerned who are involved in the decision-making process in their respective organizations. The above-mentioned aspects can thus be treated as specified project areas which need to be programmed and implemented during the Sixth Five-Year Plan (1987-1991).

PARTICIPATION BY NON-GOVERNMENT AGENCIES

Non-government agencies within the country participating in such programs like distance education are almost non-existent. However, it must be mentioned that radio broadcasting was initiated by the National Youth Association of Bhutan which is a non-government agency. It is presently not involved in such activities.

Colleges and universities in India which offer correspondence courses to the working people in the country can be called as non-government agencies participating in the development of distance education. There is ample scope for expanding and enhancing these courses. To create distance education facilities for higher education is a demanding and uphill task. As such, correspondence courses for higher education may continue to avail of the facilities of the Indian colleges and universities until they are available in the country. Unlike in the past, all working people interested in correspondence courses for higher education will be required to go through the Distance Education Administrative Unit, Department of Education, which will have developed understanding, relationship and affiliation with the selected colleges or universities offering correspondence courses.

There are no other non-government agencies involved in the development of distance education.

GOVERNMENT POLICIES AND PLANS REGARDING DISTANCE EDUCATION

In compliance with the command of His Majesty the King, the National Education Committee under the Chairmanship of His Excellency Lyonpo Dawa Tshering, Foreign Minister, was instituted in 1982 to review and revise the National Education Policy. Accordingly, the Committee has drafted the Education Policy in 1984 and among about 20 chapters, two chapters are yet to be amended. The following are some selected educational objectives extracted from the National Education Policy, 1984 (draft):

- (i) Strengthen love and loyalty to King and country and be proud of being Bhutanese.
- (ii) Help children to learn to think not only of one's material advantage, but how to serve others less fortunate than himself - an essential Buddhist and Hindu quality.

- (iii) Develop human resources including individual growth in relation to social needs through the provision of knowledge, information and skills relevant to a predominantly agricultural economy and also responsive to the needs of the overall economy.
- (iv) Substantially expand primary schooling facilities to achieve wider coverage, giving due emphasis to consolidation of existing institutions and qualitative improvement.
- (v) Reorient the educational curriculum and content of courses to incorporate elements of work experience and socially useful productive work linked with the attainment of educational objectives.
- (vi) Teach reading, writing and numeracy (through non-formal adult education) to as many people as possible to enhance the rate of literacy. This will enable many more Bhutanese to participate meaningfully in all national development programs.
- (vii) Promote experimental projects of functional literacy geared to agriculture production, improved health, nutrition, better family life, child and mother care, sanitation programs, in order to enhance the capacity of people to participate meaningfully in national development programs.
- (viii) Expand pre-service and in-service training of educational personnel, and attract and retain qualified, committed and competent teachers and other professional staff.
- (ix) Intensive efforts to improve and promote the learning of Dzongkha, the national language and official link and communication language.
- (x) Inculcate in the students spiritual, cultural and traditional values, and national and social cohesion.

The above extracted objectives are explicitly or implicitly relevant to distance education.

A. Teacher Education

The Government strongly stresses the consolidation and qualitative improvement of education. Inevitably, "... the quality or standard of education depends primarily on the quality and competence of teachers. Shortage of teachers and inadequate training are major drawbacks in the present system. Both pre-service and in-service training of teachers ... will be suitably improved" (Department of Education, *ibid.*). Further, the report of the World Bank Sectoral Study Mission, 1984, recommends the establishment of more teachers' training centers in order to cope with the increasing demand for the supply of

teachers. The report also recognizes the training of teachers as a priority issue with a view to bringing about qualitative improvement to primary education.

In an attempt to make the education relevant to the national needs and aspirations, major innovation is taking place in curricula, particularly the primary education curriculum, in line with the national education policy. Implicit in the innovation of curriculum is the requirement for training of all teachers who are the key instruments of implementing the new curriculum.

New Approach to Primary Education (NAPE) is currently experimented in 12 pilot schools. The NAPE will be introduced in all schools during the Sixth Plan. There is thus an urgent need for training of all school teachers.

Possibilities and feasibilities of training the teachers through distance education were briefly discussed during the recent workshop on NAPE, participated by headmasters and resource teachers, etc. of the 12 pilot schools. All participants unanimously advocate the concept of distance education. Inference can now be reached that the training of teachers through distance education is a priority issue.

B. Non-Formal and Adult Education

It is the continuous policy of the Government to make as many people as possible literate and numerate, aiming at the productive and constructive participation by the people in the development programs. It also aims at improving the standard of living. A high degree of importance is, therefore, placed on the provision of non-formal or adult education.

C. Functional Literacy

The educational objectives on the functional literacy explicitly express the policy of the Government. The Ministry of Communication's continued commitment to the enhancement of the functional literacy programs broadcast by the BBS clearly indicate the placement of priority on the education of illiterate farmers in particular and the general populace.

D. Parent Education

Functional literacy may include the parents in general. The Government also intends to create specific facilities for parent education stressing on the role the parents could play in the education of their children in the formal school system.

E. Teaching of Dzongkha, the National Language

The Royal Government of Bhutan's perpetual perception of making the national language, Dzongkha, a link and communication language in the country has resulted in the introduction of adult education in some non-Dzongkha speaking Dzongkhags.

In an attempt to achieve the above-mentioned objectives, distance education, is conceived as an alternative means to conventional education and training. Possibilities and feasibilities for distance education, except for higher education, are being worked out in detail. For the provision of funds, it is already included in the proposed Sixth Plan document of the department. As indicated, the Government's plan for the distance education is to concentrate on the five specific areas mentioned above.

SCOPE FOR INVOLVEMENT OF INTERNATIONAL AGENCIES

Although television facilities are not available, radio is conceived to be one of the main media for distance education.

The following are the major areas where the international agencies could be involved:

- (i) Provision of necessary equipment, such as radio sets (two-in-one), cameras, audiocassettes, to be supplied to schools;
- (ii) Training of personnel, including producers, scriptwriters, presenters, curriculum developers, etc; and
- (iii) Consultants in distance education – they could help the Government in policy planning and operational system.

DEVELOPMENT SUPPORT COMMUNICATION

The desire of the Royal Government of Bhutan for a happy and prosperous life for its people has been translated into development policies and programs covering various sectors as Agriculture, Animal Husbandry, Education, Health Power, Infrastructure Development and so on.

The development plan and programs are formulated in response to the needs and aspirations of the people and in accordance with the policy of the Royal Government.

In order to achieve the goals and objectives of development programs, further mobilization and participation of the Government agencies and people in development tasks are called for.

In fact, one of the five policy objectives of the Royal Government of Bhutan is to enlist better participation of the people in the country's development programs.

However, mobilization and people's participation in turn require an effective communication network between the Government and the people. Communication is an integral and inseparable component of the development process; it is the flow of information in two directions. For the people to be aware of Government policy, information must flow from the Government to the people; and for the Government to be aware of the needs and aspirations of the people, information must flow from the people to the Government.

The Royal Government is aware that participatory development is a two-way process of understanding based on communication. Therefore, it is intended that development support communication (DSC) should be integrated in the country's development strategy.

Accordingly, during early 1981, a new division called Development Support Communication Division (DSCD) was established within the Department of Information, Ministry of Development, to coordinate the DSC programs within the country.

The functional roles of the DSCD are as follows:

- a) To assist the technical departments and Dzongkhags in determining communication needs and thereby assist them in developing communication strategies and work plans, designed to secure better participation of the people in various development programs;
- b) To make training programs for Government field workers more effective by sharpening the training skills of trainers through

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DSC training and helping to develop and use effective teaching methods and teaching/training aids;

- (c) To help the Government field workers and DYT members through DSC orientation to communicate and work more effectively with villagers to motivate their active participation in development programs; and
- (d) To supplement the communication work of field workers by disseminating information directly to the community through various groups and available mass media.

To perform all the functions of DSC programs, DSCD has formed three sections:

- (a) Program/Planning Section
- (b) Production Section
- (c) Distribution/Utilization Section

These sections have to work as a team to develop DSC programs and produce communication materials. DSCD is now capable of providing the following services to the technical departments:

- (a) Conducting training in communication and communication skills;
- (b) Conducting training in communication planning;
- (c) Conducting training in the production of AV materials;
- (d) Planning and production of training/teaching aids and materials;
- (e) Planning and production of communication materials such as:
 - leaflets
 - pamphlets
 - booklets
 - flipcharts
 - posters
 - calendars
 - 35mm colour and black and white slide sets with sound
 - still photography
 - sound recording and mixing
 - 16mm films
 - filmstrips
 - stickers
- (f) Assisting development agents in planning and setting up of development exhibition scientifically.

The vital components of the DSC system are the technical departments and the Dzongkhags (District Administration) which plan and implement development programs. The training institutions and centers are equally important as knowledge and skill are important elements of the DSC system.

The DSCD has been established to coordinate and provide technical departments and Dzongkhags with communication support services to increase the effectiveness of development programs at the grassroots level.

Hence, Development Support Communication is not a separate program but it is an integral part of any development program.

Since DSCD is designated to serve technical departments and Dzongkhags, it is essential for these three agents to work closely for effective planning and implementation of the DSC component of any development program.

EDUCATIONAL STATISTICS (1986)

A. *Population as of 1986*

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	1,118,453	58,018	162,055	160,102	263,461	185,989
Male	588,963	29,707	84,984	80,787	136,190	95,637
Female	529,490	28,311	770,701	79,315	127,271	90,352

Statistics on Urban population - not available

B. *Educational Institutions*

					Teachers	
1. <i>Primary Schools</i> <i>(PP to CI.V)</i>	Number	Boys	Girls	Capacity	Trained	Untrained
Total	47,352	30,772	16,570	—	1,117	237
Rural	29,622	20,457	9,165	—	879	178
Urban	17,730	10,315	7,415	—	198	59
2. <i>Secondary Schools</i> <i>(Grades VI to X)</i>						
Total	5,100	3,671	1,429	—	580	67
Rural	1,155	845	310	—	51	5
Urban	3,945	2,826	1,119	—	529	62
3. <i>Degree Colleges</i>	Number	Boys	Capacity	Faculty		
Total	381	317	64	—		
4. <i>Universities</i>						
General	1	317	64	381		
Technical	—	—	—	—		
5. <i>Professional Colleges</i>						
Medical	22	19	3			
Engineering/ Technology	25	25	0			
Agriculture	10	10	0			

	Number	Boys	Girls	Capacity	Faculty
<i>Teacher Training</i>					
- Primary Teacher Training	71	36	35		
- Secondary Teacher Training	41	30	11		
6. Technical/Vocational Training Institutes					
Royal Bhutan Polytechnic	1	99	0		21
Royal Technical Institute	1	386	0		29
Commercial Institutes	1	10	43	53	3
Vocational Training Institutes	34				
	(Agriculture, Forest, Health, Veterinary)				
Others (Specify)					
School for the Blind	1	7	0		7
7. National Education/Training Institutes					
National Institute of Education	-	1			
Teachers' Training Centre	-	1			
Royal Veterinary Institute	-	1			
Health School	-	1			
Agriculture Institute	-	1			
School of Forestry	-	1			

C. Distance Education and Status of Broadcasting, Printing, Postal Services in the Country

8. *Distance Education Institutes*
 - National Institute of Education
 - Non-formal education for out-of-school children and illiterate adults.
 - Bhutan Broadcasting Service
 - Functional education
 - Indian Universities and Colleges
 - Higher Education
9. *Radio Facilities (Production and Broadcasting Facilities for Education Programs)*
 - 50 KW Station - 1/6 of 9 hours program available for education.
10. *TV Facilities (Production and Broadcasting Facilities for Education Programs)*
 - Total Capacity - Nil
 - Level of Utilization - Nil
 - Scope of Expansion - Nil
11. *Percentage of Electrified Villages*
 - 95 per cent as per the statistics (1984-85) of Department of Power
12. *Status of Printing Facilities in the Country*
 - (i) Royal Government Press equipped with modern printing facilities
 - (ii) Private printing firms are available
 - (iii) Computers - word processing, photocopying machines are available in offices
13. *Postal Services in the Country*
 - 85 Post Offices including GPO - covering all important towns and villages

D. Manpower Requirements of the Country as Projected in Development Plans

The Royal Civil Service Commission is still working on the requirements of manpower in the country during the Sixth Five-Year Plan. Whenever it is ready, the copy will be either sent by post or brought by the participant.

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Distance Education in Burma

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN BURMA

The educational policy of the Burma Socialist Programme Party claims: "to provide the facilities for workers to obtain university education, both at graduate and post graduate levels, while still active in service". Thus in the 1960s, Rangoon University launched a program known as "External Arts" which provided a curriculum for limited Arts subjects, and an annual final examination. But since only the curriculum was provided and no instructional facilities whatsoever were available, the students had to work on their own, and so the program was not very popular. This program faded out in the 1970s.

In 1976, to expand educational opportunities for working people, the University Correspondence Center was first established under the supervision of the Rector of the Arts and Science University, Rangoon. This center was the only correspondence center and was responsible for distance education for the whole country. But with the increase of students at an alarming rate, decentralization had to take place. Thus there are at present 19 regional centers all over Burma. Detailed description of regional centers with their affiliated university or college and respective division or state are in Table 1.

Table 1: Detailed Descriptions of Regional Centers

No.	State/Division	Affiliated University/College
1	Kachin State	Myitkyina Degree College
2	Kayah State	Taunggyi Degree College
3	Karen State	Pa-an College
4	Chin State	Mandalay University
		Monywa College, Pakhoku College
5	Sagaing Division	Monywa College, Shwebo College
6	Tannensarin Division	Tavoy College
7	Pegu Division	Pegu College, Prome College
8	Magwe Division	Magwe Degree College
		Yenangyaung College
		Pakhoku College
9	Mandalay Division	Mandalay University
		Meikhtila College
10	Mon State	Moulmein University
11	Rakhine State	Sittwe Degree College
12	Rangoon Division	Rangoon University
13	Shan State	Taunggyi Degree College
		Lashio College
14	Irrawaddy Division	Bassein Degree College
		Henzada College

The aim of the Correspondence Course is to provide the opportunity for the workers to undergo undergraduate study without leaving their work, the method of teaching is a combination of correspondence courses, radio broadcast and compulsory, short-term intensive teaching.

The study methods have mainly been those of traditional correspondence study of pre-produced printed courses, needing written two-way communication (Fig. 1).

The effectiveness of teaching depends very much upon the efficiency of the postal system. The postal service seemed to be inadequate and so some solutions were sought. The alternative was to appoint the township Education Officers of the Basic Education Department, to serve as local distributors of textbooks and assignments. Even then, there were some complaints from students who were working in the remotest areas of Chin, Kachin and Shan States, of irregular delivery of their assignments.

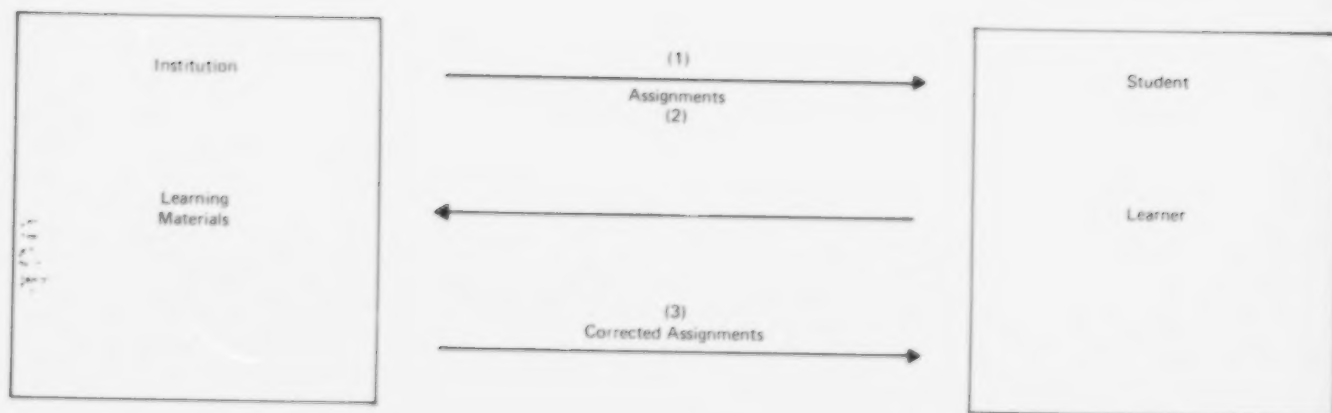
The lectures or the learning materials based on the prescribed textbooks and the assignments are prepared by the staff of the various departments of Rangoon and Mandalay Universities and also by the Institute of Economics for B.A. (Econ.) courses. The learning materials are distributed to the students, mostly by post, to enable them to study the lectures and to answer the 16 assignments which are sent to them at the rate of one assignment every fortnight. The students on their part are expected to submit the completion of an assignment at the same rate. The evaluation of these completed assignments are done by the academic staff of the universities and colleges and sent back to the students every fortnight.

As for the radio lessons, the number of lessons that can be allotted to the various subject areas are comparatively limited. As a result, there is no thorough coordination and integration with the assignments. However, the radio lessons were continued since radios are easily available even in remote areas. Television stations are scattered and available only in a few states thus TV has not been used as a medium. But experimental TV programs for basic education in high school subjects were launched in 1983, and was found to be quite popular.

The intensive courses are held (i) to explain and teach lessons which are not self-explanatory and are difficult to understand through correspondence; (ii) to explain and teach more important parts of the subject (practical classes are held for the science subject); and (iii) to enable students to have direct contact with course designers and assessors so as to clear any problems they may have.

Intensive teaching courses are held twice a year, once in April for the length of ten days and another in October and November for about

Fig. 1: DIAGRAM SHOWING THE STUDY METHOD



15 days just before the examination commences. These classes are held at the universities and colleges under which the regional centers have been opened. The staff members of these institutions along with the correspondence staff, both academic and administrative, are responsible for conducting, supervising and undertaking the instruction for these courses.

The prerequisites for admission to the University Correspondence Course are: (i) pass in the Basic Education High School Examination from the (A) list; and (ii) a good moral character.

The University Correspondence Center has four main faculties, namely: (i) Economics; (ii) Law; (iii) Science; and (iv) Arts. The duration for all the courses is five years with the exception of law course which is six years and the number of assignments for each subjects (both major and minor subjects) are 16 each. The types of subjects offered by the four faculties and the kind of degree conferred upon is mentioned in Table 2.

Table 2: Faculties and Types of Subjects and Degree

No.	Faculties	Subjects	Degree	Duration
1	Science	Mathematics Physics Chemistry Zoology Botany	B.Sc.	5 years
2	Arts	Burmese History Geography Philosophy Psychology	B.A.	5 years
3	Economics	Economics subjects	B.A. (Econ.)	5 years
4	Law	Law subjects	L.L.B.	6 years

The operational system of distance education, i.e. University Correspondence Course is shown in the organization charts of Charts I and II. Two modules are shown in the charts; one for the university level and the other for the college level. The nominal Head of the organization is the Rector in the university level and the Principal in

Chart I. MODULE OF UNIVERSITY CORRESPONDENCE COURSE
(UNIVERSITY LEVEL)

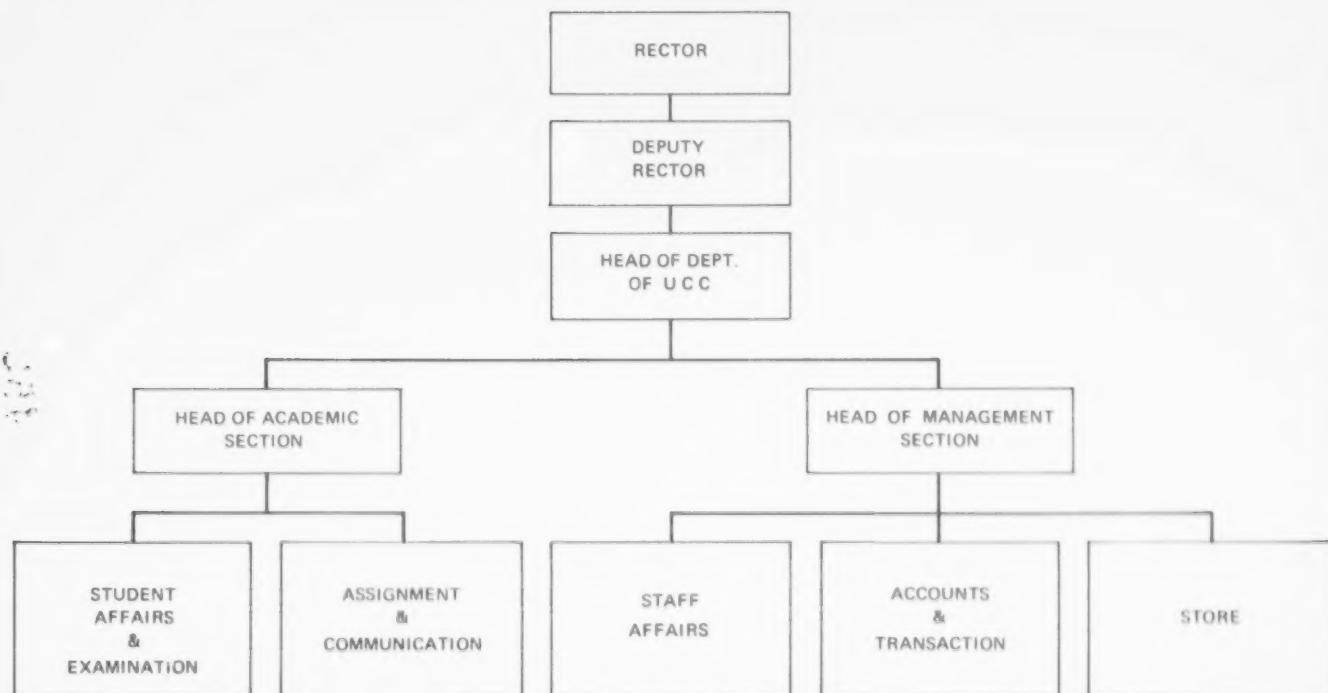
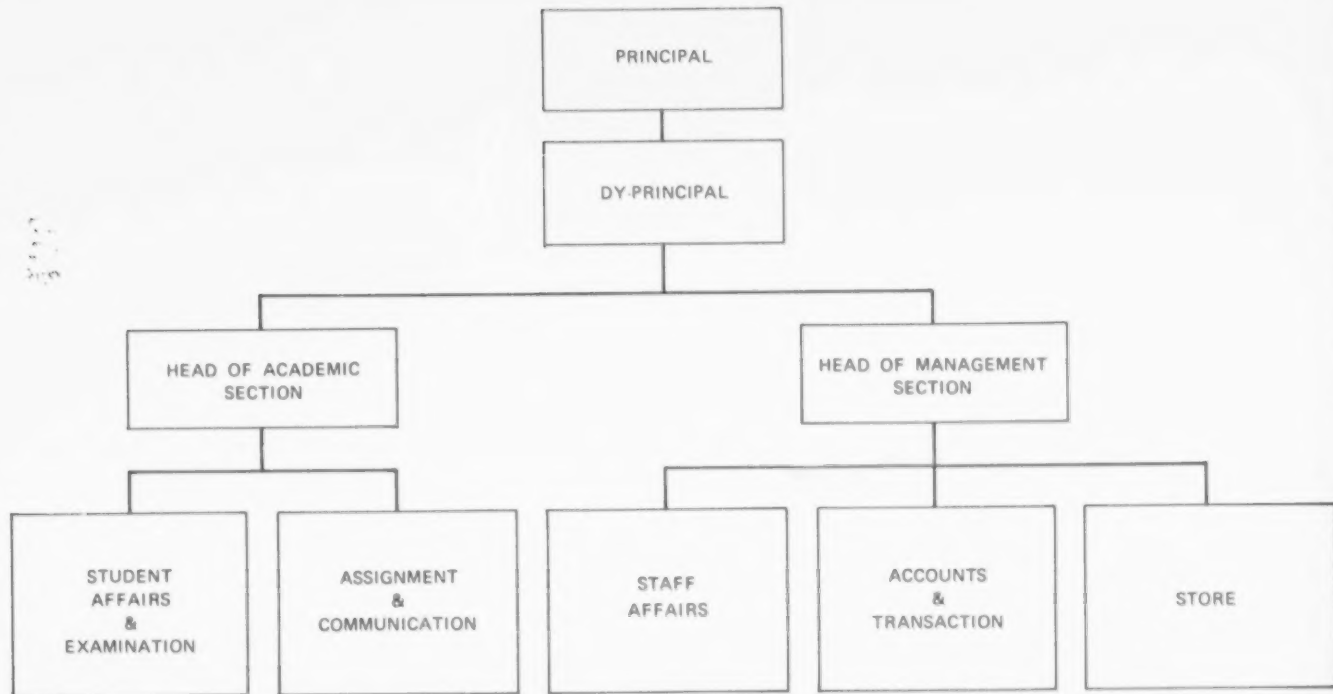


Chart II: MODULE OF UNIVERSITY CORRESPONDENCE COURSE
(COLLEGE LEVEL)



the college level. Then, depending upon the size of the student population, the section heads are appointed. The head of the academic section supervises the network of admission, examination and convocation as well as distribution of books and assignments and other communication problems. The head of the management section deals with the problems that concerns staff affairs, accounts and monetary transactions as well as general supervision.

Annual fees collected from students are Kyats 375 for arts students and Kyats 400 for science students. General breakdown of the fees, such as admission, registration, etc. is shown in Table 3.

The annual population growth from 1982 to 1985 is shown in Table 4.

The total student population in University Correspondence Course in Burma can be estimated at about 85,000 (including first year arts students scattered in all the two-year colleges).

In Burma, education is the concern of the State. The amount of money allotted yearly (a certain percentage from the government budget) has been increasing. The trend is shown in Table 7. To complete the picture of educational finance, annual expenditure for education from the years 1975-76 to 1985-86 is also presented in Table 8.

The Correspondence Course was financially incorporated into the university or college to which it is attached. Thus both current and capital budget are appropriately distributed among various sections of the organization by the university or college account section.

The financial status of the two main universities, namely Rangoon University and Mandalay University, are shown in Tables 9 and 10, respectively.

SCOPE FOR EXPANSION OF DISTANCE EDUCATION IN BURMA

Being aware of the value of non-formal education, the Government has been conducting a literacy campaign since 1965. Meikhtila township was selected as a pilot area in 1969 for the complete eradication of illiteracy. Based on the experience gained in that area, the literacy campaign was extended to other townships. A notable recognition of Burma's literacy campaign has been the award of the Mohammad Reza Pahlavi Prize of 1971 to Burma by UNESCO.

This adult literacy movement has been gaining momentum. During 1984-85, the movement was carried out in eight townships and celebration of total victory over illiteracy had been held in townships, states and divisions.

The Ministry of Information also cooperates with the Education Ministry in producing small booklets which were meant for the newly literate people. The subjects of those booklets covered a wide range of interest such as social and preventive medicine, anti-drug movement, etc. These booklets are freely distributed among those who have completed the three Rs program thereby increasing their rate of learning through outside reading.

The Ministry of Labour, in cooperation with the Ministry of Information also had launched a program called "Workers' Education Programme" around 1970s. University dons were invited to write a series of lectures covering such academic topics as Psychology, History, Geography, etc. and these lectures were broadcast by radio. The target audience was workers in general and the objective was to extend their horizon of general information. But with the introduction of variety of questions and answer program covering a wide area of agriculture, livestock breeding and domestic science as well as indigenous medicine, the Worker Education Programme was dropped.

Another non-formal education program was in the form of the youth night schools and evening classes, and they have been playing a major role in the education of youth. Some of the vocational programs of non-formal character run by other departments have been extending educational opportunities to the school dropouts and those who are in the labor force.

With the acknowledgment of the really effective role teachers play in elevating the standard of instruction and efficiency of teaching and in preparing future participants of socialist society, it is desirable that all teachers should be fully qualified, adequately trained and best fitted for the profession. Thus, programs such as orientation programs, refreshers'

Table 3: Annual Fees for Each Student

No.	Particular	Kyats
1	Registration fees	10.00
2	Admission fees	10.00
3	Tuition fees (Annually)	240.00
4	Textbooks	80.00
5	Scripts fees	20.00
6	Examination fees	15.00
7	Laboratory fees (Science students only)	25.00

Table 4: Population Growth from 1982 to 1986
(in thousands)

No.	Year	Age	Male	Female	Total
1	1982-83	0 - 14 years	6,650	6,597	13,247
		15 - 59 years	9,629	9,828	19,457
		60 & over	1,073	1,199	2,272
2	1983-84	0 - 14 years	6,703	6,653	13,356
		15 - 59 years	9,891	10,092	19,983
		60 & over	1,104	1,237	2,341
3	1984-85	0 - 14 years	6,769	6,722	13,491
		15 - 59 years	10,145	10,346	20,491
		60 & over	1,134	1,276	2,410
4	1985-86	0 - 14 years	6,836	6,786	13,622
		15 - 59 years	10,401	10,602	21,003
		60 & over	1,168	1,322	2,490

Source: Report to the Pyithuhluttaw, 1986.)

Table 5: Annual Increment of Student Population
Rangoon University Correspondence Course

No.	Academic Year	Arts	Science	Econo- mics	Law	Total
1	1978-79	9,857	17,122	9,122	17,852	53,953
2	1979-80	24,603	21,659	11,012	21,066	78,340
3	1980-81	28,688	25,559	10,061	21,087	85,395
4	1981-82	21,621	16,966	9,860	18,153	66,600
5	1982-83	23,438	16,193	8,965	17,253	65,849
6	1983-84	27,129	14,602	8,250	13,779	63,760
7	1984-85	34,985	13,806	7,018	10,271	66,080
8	1985-86	28,908	13,218	3,884	6,998	53,008

**Table 6: Annual Increment of Student Population
Mandalay University Correspondence Course**

No.	Academic Year	Arts Students	Science Students	Total
1	1981 - 82	13,704	7,792	21,496
2	1982 - 83	15,318	7,388	22,506
3	1983 - 84	17,679	7,362	25,041
4	1984 - 85	23,361	7,209	30,570

**Table 7: Expenditure on Education
(in Kyat millions)**

No.	Year	Exp. on Educ.			Govt. Total Exp.			Educ. % of
		Current	Capital	Total	Current	Capital	Total	Total
1	1964-65	176	8	184	1,112	269	1,381	13.32
2	1965-66	194	13	207	1,160	258	1,418	14.59
3	1966-67	213	24	237	1,203	275	1,478	16.04
4	1967-68	230	15	245	1,238	183	1,421	17.24
5	1968-69	257	18	275	1,313	234	1,547	17.77
6	1969-70	273	19	292	1,383	280	1,663	17.55

Source: Institute of Education, 1986.

**Table 8: Annual Expenditure for Education
(in lakhs)**

No.	Year	Current	Capital	Total
1	1975 - 76	3,860	193	4,053
2	1976 - 77	4,225	169	4,394
3	1977 - 78	4,492	148	4,640
4	1978 - 79	4,856	298	5,154
5	1979 - 80	4,926	233	5,159
6	1980 - 81	5,840	615	6,455
7	1981 - 82	6,770	376	7,146
8	1982 - 83	6,962	1,919	2,881
9	1982 - 84	7,512	2,860	10,172
10	1984 - 85	7,837	2,136	9,973
11	1985 - 86	8,547	2,034	10,581

Source: Report to the Pyithuhluttaw, 1986.

courses and in-service training programs have been drawn up for uplifting the standard of teachers education. An innovation which was begun in 1978 is the introduction of B.Ed. two-year correspondence course for non-certified teachers. The development of teachers education during the period between 1974-75 and 1984-85 is shown in Table 11.

Table 12 shows the total educational scene including schools, institutes, colleges, universities and teachers as well as students.

As a non-formal education for the workers and farmers, as well as general public, a radio program called "Workers Affairs and Workers Songs," "Answers to the Farmers' Questions" and "Answers to the Radio Listeners' Questions" on various topics was introduced. The Health Ministry, in cooperation with the Ministry of Information has also launched a radio program, although not on a regular basis, on socialized medicine and public health. As for the rural and underprivileged population, the three Rs campaign and literacy extension programs are still active.

**Table 9: Financial Status of the University
Correspondence Course
(Rangoon University)
(in Kyat thousands)**

No.	Fiscal Year	Income	Expenditure
1	1982 - 83	20,954.00	5,000.00
2	1983 - 84	19,427.00	5,000.00
3	1984 - 85	19,231.00	6,000.00
4	1985 - 86	19,944.00	6,000.00

**Table 10: Financial Status of the University
Correspondence Course
(Mandalay University)
(in Kyat thousands)**

No.	Fiscal Year	Income	Expenditure
1	1982 - 83	7,164.74	2,037.55
2	1983 - 84	7,331.80	2,176.14
3	1984 - 85	7,661.25	2,500.38
4	1985 - 86	9,255.10	2,702.47

Table 11: The Development of Teachers' Education

No.	Particulars	No. of Students (Final year passed)		Remarks
		1974-75	1984-85	
1	Institute of Education	420	879	Senior Assistant Teachers
2	Teachers' Training Colleges	663	1,200	Junior Assistant Teachers
3	Teachers' Training Schools	3,230	2,634	Primary Assistant Teachers
4	Academy for the Development of National Groups	140	150	Primary Assistant Teachers

PARTICIPATION BY NON-GOVERNMENT AGENCIES

In literacy campaigns and extension of literacy rates, support and cooperation from the general public is quite substantial.

Village elders, committee members of the village-tract Peoples' Council, and well-to-do farmer gave moral, physical and financial support to the literacy movement. The university students on vacation also participated in the literacy campaign as voluntary instructors of three Rs.

With regard to University Correspondence Course, members of the Party Units in various townships, in cooperation with the available subject teachers, preferably university teachers, conducted an intensive course of about ten days duration in their respective townships. Such activities are made on a voluntary basis.

Under the Ministry of Education, there is only one printing facility called Rangoon University Press which, apart from its regular routine job, has to cater to the production of textbooks for the University Correspondence Course. Thus, it is sometimes very difficult to turn out required amounts of textbooks for the annually changing population of students, both in quantity and kind, on expected target dateline. To fulfill the required amount of textbooks and other reading materials on time, private printing enterprises are hired on contract basis.

GOVERNMENT POLICIES AND PLAN REGARDING DISTANCE EDUCATION

First, it is most appropriate and imperative here, to describe educational policies and objectives of the Burma Socialist Programme Party. These are: (i) to provide basic education to all citizens; (ii) to base on the uplift of Socialist moral values; (iii) to promote and extend sciences and technology which are essential for building up a socialist system; (iv) to nurture professionals, technicians, skilled and semi-skilled workers who definitely accept the socialist system and who would serve in building up a socialist society; (v) to nurture working people with all-round development; (vi) to educate students in such a way that those of high caliber and diligence will be able to pursue higher learning; and (vii) to provide opportunities for workers to continue higher education while still in service.

The seventh objective is concerned with workers' education. To implement this objective, the University Correspondence Course, a form of distance education, was established in 1976.

The Policy highlights equitable distribution of educational facilities throughout the Union, irrespective of geographical terrain, encompassing not only academic subjects but also various topics in the field of technical, agricultural and vocational training.

The role of the teacher is changing from teaching to helping the child in learning. Thus the existing methods and curricula need to be reviewed and new programs drawn up aiming at increasing the supply of qualified and competent teachers. To implement this objective, a vast majority of teachers, still in active service, can be trained to fulfill the various requirement, both academic and professional, through the process of distance education.

SCOPE FOR INVOLVEMENT OF INTERNATIONAL AGENCIES

The international agencies should first make feasibility studies in various sectors such as: (i) just literate; (ii) primary school level; (iii) secondary school level; and (iv) high school level.

Other areas where an international agency can render assistance are those of electricity supply and post and telegraph.

The process of communication in terms of post and telegraph has grown although not enough. In 1981-82, there were 1,107 post offices, 47,001 telephones, 293 telegraph offices and 76 telex facilities whereas in

1985-86, it increased to 1,126 post offices, 55,935 telephones, 336 telegraph offices and 160 telex facilities. These communication networks are imperative for the effectiveness of distance education.

Table 12: Number of Schools, Teachers and Students

No.	Particulars	1984 - 85			1985 - 86		
		School	Teacher	Student	School	Teacher	Student
1	Primary School	25,499	95,435	4,704,022	31,499	114,767	5,021,066
2	Secondary School	1,492	25,614	977,842	1,702	41,624	1,027,367
3	High School	651	13,067	264,865	726	15,797	266,665
4	Academy for Development of National Group	1	62	750	1	62	775
5	Teachers' Training Schools	13	243	2,634	14	271	3,540
6	Teachers' Training Institute	3	117	1,200	4	185	3,000
7	Technical High School	14	400	4,236	13	400	5,178
8	Technical Institute	7	271	4,374	8	286	4,885
9	Agricultural High School	9	85	901	9	85	1,099
10	Agricultural Institute	6	96	1,152	6	96	1,413
11	Other Vocational Schools	34	209	3,913	34	208	4,862
12	Evening Classes for Technicians	7	93	3,126	7	93	3,780
13	University and College	35	5,510	174,852	35	5,636	184,361

Source: Report to the Pyithuhluttaw, 1986.

EDUCATIONAL STATISTICS

A. Population as of 1985 (In thousands)

	All Age Groups	0-14 Yrs.	15-59 Yrs.	60 and above
Total	37,115	13,622	21,003	2,490
Male	18,405	6,836	10,401	1,168
Female	18,710	6,786	10,602	1,322

B. Educational Institutions

	<i>Enrollment (1985)</i>		
	<i>Number</i>	<i>Teachers</i>	<i>Students</i>
1. Primary Schools	31,499	114,767	5,021,066
2. Secondary Schools (Grade VI - XII)	2,428	57,421	1,294,032
3. Degree Colleges	4	855	15,828
4. Universities (Arts and Science)	2	2,485	51,471
5. Professional Colleges			
Medical	3	598	4,289
Dental	1	58	489
Veterinary	1	39	878
Economics	1	200	5,183
Engineering	1	268	5,395
Agriculture	1	92	1,835
Education	1	156	1,884
Teachers' Training			
- Primary Teachers' Training	19	518	7,315
- Secondary Teachers' Training	4	185	3,000
6. Technical/Vocational Training Institute			
Technical High School	13	400	5,178
Technical Institute	8	286	4,885
Agricultural High School	9	85	1,099
Agricultural Institute	6	96	1,413
Technical and Vocational Schools	34	208	4,862
Technical Evening Classes	7	93	3,780
7. National Education/Training Institute			

*C. Distance Education and Status of Broadcasting, Printing, Postal
Services in the Country*
(These items are discussed in the paper.)

Number of Electrified Places (1985)	
Townships	Village Tracts
287	719

Postal Services in the Country (1985)	
(1) Post office	1,126
(2) Telephone	55,936
(3) Telegraphs	336
(4) Telex	160

Distance Education in Fiji

Harry Ram
Deputy Secretary of Education
Ministry of Education
Suva (Fiji)

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BACKGROUND INFORMATION

A. Fiji Islands

The Fiji Islands comprise about 332 islands of which one-third are inhabited. The islands vary in size from 10,000 square kilometers to tiny islets a few meters in circumference. These spread over thousands of kilometers of ocean in the heart of the South Pacific. The Fiji Islands lie between longitudes 175° and 177° West and latitudes 15° and 22° South. The total land area is 18,333 square kilometers and the second largest, Vanua Levu, has an area of 5,556 square kilometers.

The islands of Fiji are home to many different peoples – predominantly Fijians (330,441) and Indians (347,445), with part-Europeans, Chinese, Europeans and other Pacific Islanders (36,662). Fiji was ceded to Great Britain in 1874 and became independent in 1970. A ministerial system of government was introduced in 1967. The country accepted a democratic system of constitutional government based on the British Westminster model. Although an independent nation, Fiji still maintains close ties with Great Britain with Queen Elizabeth II being proclaimed as the Queen of Fiji. The constitution of Fiji provides that the Parliament shall consist of the Queen (represented by the Governor-General), the House of Representatives and the Senate. The House of Representatives (Lower House) consists of 52 elected members. Elections for the House of Representatives are held every five years unless the House is dissolved earlier. The Senate consists of 22 nominated members. The Governor-General appoints the Senate on nomination by the Great Council of Chiefs (eight), the Prime Minister (seven), the Leader of Opposition (six) and the Council of Rotuma (one). The term of office of a member of the Senate is six years and his/her tenure is not affected by a dissolution of Parliament. The Senate's general purpose is to review legislation from the House of Representatives. The power of Parliament to make laws is exercised by bills passed by both Houses of Parliament and assented by the Governor-General.

B. Economy

The economy of Fiji is agro-based with sugar being the major export and income-generating commodity. Other export earners are copra, fish, ginger and pine timber. Tourism is the next largest industry in terms of foreign earnings. Fiji is endowed with significant areas of tropical hardwood timber as well as gold reserves. Pine is gradually

gaining increasing importance together with beef production. The per capita income is \$1,777 (1985 estimates).

C. Population

Fiji's population on the basis of the most recent census (August 1986) is estimated at 714,548. The 1986 total shows the following breakdown (percentage to total population in brackets): Fijians 33,441 (46.25); Indians 347,445 (48.62); others 36,662 (5.13).

D. Education

In 1984 there were 1,069 schools. These schools were staffed by 7,615 teachers, 93 per cent of whom are trained. Of the estimated (1984) total population of 686,000, some 25.7 per cent were attending school full time compared with 25.8 per cent in 1983 and 25.9 per cent in 1982. The percentage of 6 to 11-year olds in schools in 1984 was 97.8 per cent while the corresponding figure for 6 to 13 years was 96.5 per cent. The full-time roll of all schools were 176,326 (25 per cent of the total population), with a secondary school roll of 43,277. The Technical and Vocational roll rose by 1,090 to 3,708 during 1984.

Nearly 100 per cent of primary school-age children are in school with Classes 1-8 receiving free education. The Government implemented free education in 1973 to Class 1 and had added a class each year afterwards. During the next four years efforts will be made to increase free education to 12 years.

There were 219 pre-school centers during 1984, however, 47 of these centers remained closed because of financial constraints and damages caused by cyclones. The total number of pre-school children stood at 5,340. There has been a slight drop due to the closure of a number of pre-schools as well as the increase in the number of Group of Nine centers.

There were 655 primary schools with 123,340 pupils and 4,384 teachers. On the average there is a wastage rate of 25.5 per cent during the eight-year primary course. Class 8 children who desire admission to Form 3 in the following year are required to sit for the Eight-Year Examination. Secondary schools in Fiji cater to students from Forms 1 to 7 level. There were 43,277 students in the 139 secondary schools. Technical and vocational education are provided in a number of schools although there are some schools that specialize in technical and vocational education. The major tertiary technical educational institute is the Fiji Institute of Technology which had a total student roll of 1,759 in 1984.

Other Institutions: The Fiji School of Medicine was established in 1886. It is located in Suva on two campuses, the pre-clinical school based at Tamavua Heights and the clinical school at the CWM Hospital Campus. The school offers 5 to 6-year graduate program leading to a Degree of Bachelor of Medicine and Bachelor of Surgery (MBBS). In addition to the medical program, the school offers ten other paramedical courses. They are Pharmacy, Health Inspection, Junior Dental Assistance, Dental Technology, Dental Therapy, Physiotherapy, Radiography, Medical Laboratory Technology and Dietetics. The Diploma in Medicine and Dental Surgery Programmes has been discontinued from 1984. Selected Fiji students receive training in Dentistry degree program overseas.

The Fiji College of Agriculture at Koronivia was established in 1954 and currently has 72 students. The Pacific Theological College in Suva, established in 1956, has 44 full-time students and 17 women for its Women Program.

1. The University of the South Pacific (USP)

The University of the South Pacific established in 1968, a regional institution serving 11 countries – Cook Islands, Fiji, Kiribati, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Western Samoa. There are about 2,000 students enrolled in courses on campus, but there are 6,000 further enrollments in extension courses, taught through printed materials, tape recordings and satellite communication through the USP Extension Services.

2. Education Budget

The total estimated national budget for 1985 stood at \$436,756,500 and the net expenditure on Ministry of Education was \$78,295,800 (17.9 per cent of the national budget). Expenditure on the USP was \$7,113,300 (1.6 per cent of the national budget) while the total expenditure on education as a percentage of the Total National Budget was 19.6 per cent.

E. Media

Newspapers and radio services operate in Fiji's main languages – English, Fijian and Hindi. *The Fiji Times* (founded in 1869) and *Fiji Sun* (1974) are English morning newspapers. The *Sunday Sun* and *Sunday Times* are English Sunday newspapers. *Nai Lalakai* (Fijian) and *Shanti*

Dut (Hindi) are vernacular (weekly) newspapers published by the *The Fiji Times*. *Siga Rarama*, a bi-weekly Fijian newspaper, is published by the Fiji Sun Group. The Department of Information produces news releases, ad hoc publications, photographs and posters of government activities and is the source of government news.

The Fiji Broadcasting Commission (FBC) provides broadcasting services. The FBC operates two national networks of AM transmitters: Radio Fiji 1 broadcasts in English and Fijian, and Radio Fiji 2 in English and Hindustani. In addition, Radio Fiji 3-FM carries English programs. Because of the scattered nature of Fiji's islands, radio is the only source of news and information for many people living in the outlying areas, so Radio Fiji places considerable emphasis on news and current affairs and programs aimed at the rural community. Another recent development in radio service is the setting up of the first commercial radio station (FM 96). In July 1985, it began a 24-hour broadcasting service and the station presently covers an area within the radius of approximately 50 miles. FM 96 provides a cross section of programs such as music, news, sports, weather and community information. The music provided is a mixture of English, Fijian and Hindi.

Television is to be introduced in Fiji by 1988 and the proposal by the Publishing and Broadcasting Ltd. (PBL) has been accepted by the Government to establish a television service. With 30,000 to 40,000 video sets in use throughout the country, the introduction of television, with its potential for education, information and entertainment, is viewed by Government as a logical development. The possibilities of utilization of television as a medium of education are many: for further teacher education, for educational programs to supplement and enrich classroom teaching, for non-formal education, for women's education, technical and vocational education, etc. However, the attainment of these goals will require trained personnel, resources and capital.

The National Video Production Center and Library Service has been set up within the Department of Information. This center is a joint venture of the Fiji Government and Hanns Seidal Foundation. Inputs by the Government are building and support staff while the inputs from Hanns Seidal Foundation are equipment, technical assistance and finance. The Department of Information is extending the service it provides through its video unit into a national video service. Outlying villages and rural settlements with their own electricity supplies which would not have access to the TV service when this is introduced would be supplied with video programs from the Fiji National Video Center. The national video project objectives are:

- (i) to prepare for the advent of television;
- (ii) to produce regular programs of news/current affairs;
- (iii) to produce training and informational programs;
- (iv) to produce cultural and sociological programs; and
- (v) to train and establish a nucleus of location production and technical personnel.

DISTANCE EDUCATION AND ITS DEVELOPMENT IN FIJI

In Fiji, distance education is normally seen as a means to supplement, enhance and/or provide learning experience to learners. The Government has long realized the potential of mass media as aid to promoting teaching and learning – both formal and non-formal. It has used the local newspapers and radio services, not only for the dissemination of information, general education of the public but also as a means of realizing its goals concerning agricultural and rural development. Confronted by increasing costs of traditional forms of education and a growing population, the Government is acknowledging the role of mass media in the area of education and this is reflected in its decision to consolidate and expand the National Video Center and approve the setting up of the first television station.

A. Schools Broadcast Unit (SBU)

The Ministry of Education initiated formal education broadcasting in 1957. Mainly English language and English literature programs were broadcast through the Fiji Broadcasting Commission. With the language programs broadcast to the upper primary classes, emphasis was on “good models” of English speech, dictation and oral comprehension. For English literature (mainly for secondary schools) recorded programs of literature texts produced by the BBC were broadcast. In 1969, educational broadcasting began to be consolidated and some form and shape were given to it. By 1972, there was at least one program to support the teaching of English, Social Studies or Music, available to students in Class 2 and upwards. Broadcasts to secondary schools ceased in the late sixties. From 1973 onwards, attempts have been made to provide programs for all classes; some classes have had more than one program. Broadcasts in the vernacular were also begun in 1973. The

present "spread" of programs is for Classes 1-8 in the primary schools, and also for primary and secondary teachers.

Educational broadcasting is seen as offering a potentially valuable addition to the school-based educational system. Limited educational resources, the geography of the country, lack of technological expertise in the rural sector, etc. have warranted more effective utilization of media-based educational technology. The programs designed and/or selected by the SBU of the Ministry of Education aim to provide teachers and pupils with the following:

- (i) reinforcement for the teachers in teaching/learning methods by the production of programs of sound educational quality;
- (ii) augmentation of materials available to teachers and children, especially those in the more remote areas, through sounds, information, programs support materials, books and so on;
- (iii) exposure to the language spoken by competent speakers of the language, whenever possible;
- (iv) enrichment through new experiences in sound, music, drama, poetry, folk love stories, current events and so on; and
- (v) stimulation of: (a) teachers by involving them in the process of classroom listening and response, lesson notes and professional programs, and (b) of pupils through listening skills, use of imagination and "better quality" language.

Short-term objectives formulated by the SBU are:

- (i) to use new programs for up to four years at the most and to upgrade, where necessary, the quality of these programs;
- (ii) to decide which subject areas need complete reappraisal, and this is to be done in close liaison with the Curriculum Development Unit (CDU); and
- (iii) to devise new series for subjects to be chosen. This will involve consultation with CDU and teachers who teach a particular class, the researching of material, scriptwriting, selection of suitable actors, trialling in selected schools, and production of programs and support materials.

The following long-term objectives are considered to be vital in keeping the broadcast unit alive and innovative:

- (i) to upgrade the quality of all programs in terms of content, accuracy, interest level, broadcasting techniques, teaching

production standards, relevance and maximum usefulness of program notes;

- (ii) to work closely with the CDU in using Educational Radio as a support medium for current and new curriculum projects;
- (iii) to embark on the production of program series not so far attempted, e.g. music broadcasts for all classes, serial reading of stories, interactive broadcasts, etc.;
- (iv) to build up the expertise available in terms of SBU staffing for research, scriptwriting and production of programs;
- (v) to plan and produce support materials, working closely with the CDU and the Book Production Unit (BPU);
- (vi) to monitor regularly the reception and utilization of educational broadcasting in terms of relevance and suitability of content, level of interest, quality of production, level of language and school timetabling adaptability;
- (vii) to increase SBU-teacher contact and support for teachers through extended teacher programs;
- (viii) to establish formalized contact between the SBU and the teachers and pupils; and
- (ix) to strengthen the expertise of educational broadcasting staff through training.

Other than the preparation and presentation of educational programs, SBU also provides lending library services in the form of audio-visual aids (AVA) mainly for secondary schools (Forms 1-7). These aids are in the form of 16 mm films, filmstrips, slides and sounds, audiocassettes, and videotapes (PAL, VHS). They cover the following subject areas: Art, Biology, Chemistry, Physics, English, Economics, Geography, History, Industrial Arts, Mathematics, Music and General. The 16 mm films are presently being converted to videotapes. Schools within the vicinity of the unit can borrow the software for a maximum period of seven days at one time; remote and rural schools are allowed a 14-day period for the loan of these AVA materials.

B. Facilities at SBU

The studio and control room of the SBU are located on the first floor of the building; these rooms have poor soundproofing. The studio measures 10 ft x 10 ft and because of its limited floor space cannot be used for drama production. The equipment used for recording include: 1 10-channel AWA console, 5 Revox machines (for reel-to-reel tapes), 1 Tescam 42 master deck, 1 cassette deck, 1 equalizer, 1 technics

turntable, microphones, dubbing unit and speakers. The audition booth is equipped with the following machines: 1 tape deck, 1 turntable, 1 amplifier and speaker while the AVA room contains a 16 mm projector and screen, a video unit and a slide projector. The Unit also has musical instruments such as an organ, a set of drums, guitars and a glockenspiel. The facilities are used for producing educational broadcast programs. Transmission of these programs is done by the Fiji Broadcasting Commission, a statutory organization.

C. Management and Financing

The Schools Broadcast Unit falls under the Curriculum Development Unit of the Ministry of Education. Staffing is as follows: 1 Senior Education Officer (Head of the Schools Broadcast Unit), 1 Education Schools Broadcast Officer (Deputy Head and Head of Programs), 5 Educational Broadcast Officers, 1 teacher (on special duties) and 1 Production Technician. The staff are essentially involved in script-writing, production (casting), production (recording), trialling, storing and cataloguing, editing, evaluation, etc.

The Ministry of Education allocates a Schools Broadcast vote which is controlled by the Chief Education Officer (Curriculum and Advisory Services). The total estimate budget for the Schools Broadcast Unit during 1985 was \$135,900 of which \$124,900 was for personnel emoluments; \$400 for maintenance of equipment; \$2,000 for purchase of tapes and cassettes; \$5,200 for stores, supplies and services; and \$2,800 for master deck.

The existing facilities are used for providing basic training to the staff. However, there are no separate staff development facilities.

D. Strengths and Constraints

Some of the strengths of the Unit are:

- (i) it supports and enriches teaching programs in schools, mainly primary;
- (ii) it is able to assist schools in realizing how resources can be used in the classroom to improve the quality of learning; and
- (iii) the Unit's experience in the production of locally-tailored educational programs.

Some of the constraints currently afflicting the Unit are:

- (i) limited operating budget;
- (ii) siting of the studio facilities in relation to the Curriculum Development Unit and the Fiji Broadcasting Commission;

- (iii) inadequate transportation;
- (iv) inadequate recording facilities including equipment;
- (v) heavy reliance on overseas agencies for staff training; and
- (vi) lack of adequate radio cassettes and recorders in schools.

E. Utilization of Existing Resources

There is maximum utilization of existing resources with six new educational broadcast programs in the pipeline. The resources in the AVA lending library are being fully utilized by the schools. New investment requirements are: (i) purchase of more AVA resources; (ii) improved facilities and hardware for the Unit; (iii) more extensive and effective training programs for SBU staff; (iv) setting up of a section within the Schools Broadcast Unit for the purpose of producing video and TV educational programs – facility, hardware, software and personnel; and (v) increase in the number of primary school programs and production of more interactive programs.

F. Problems in the Implementation of SBU Programs

The adherence to syllabus-bound examination-oriented educational system militates against effective utilization of support services such as educational broadcasts and AVA resources. The unavailability of finance makes it difficult for schools to purchase the necessary resources while schools in the remote areas are faced with poor radio reception.

PARTICIPATION BY NON-GOVERNMENT AGENCIES

A. Extension Services of the University of the South Pacific (USP)

Extension Services operates as an autonomous unit within the USP. Its most important task is that of creating and strengthening an appropriate university presence in the region. Its headquarters is on the Laucala Campus in Suva, where extension courses are prepared for students unable to enroll for residential or part-time studies. In addition, University Extension Centers are located in ten of the countries of the region including Fiji. Where there is no center the extension program is administered by the Education Department.

The Extension Centers are a physical expression of the University's outreach. Centers operate in the Cook Islands, Fiji, Kiribati, Niue, Solomon Islands, Tonga, Tuvalu, Vanuatu, Western Samoa and Nauru (opened in August 1986). Under the guidance of resident directors, Centers service the teaching, research and consultancy programs. They also develop continuing education classes appropriate to local needs. The Centers in the Cook Islands, Kiribati and Solomon Islands have their own teaching facilities built with aid funds from New Zealand and Australia. The Fiji Center occupies temporary premises on the Laucala Campus, while some of the other centers are housed in temporary accommodation provided by the host Government or by the University.

Between 4,000 and 6,000 people are involved in continuing education which covers a wide variety of activities including public lectures, evening classes, workshops, seminars, discussion panels and forums. Although many of the activities are self-financing, considerable financial assistance has also been received from the Australian Government's Fund for the Preservation and Development of Pacific Cultures, USAID for communication projects and, more recently, UNICEF, the World YWCA and the Nederlands Comité Voor Kinderpost for Pre-School Training Courses offered by Extension in the region. A number of the centers use radio as an extension medium, preparing programs locally for their national broadcasting authority, and relaying vernacular material produced by students on the Laucala Campus for transmission in their home countries.

When Extension Services began its operations in 1970 within the School of Education, its primary objective in distance teaching was to make available to extension students in Fiji and the other countries of the University region the first two years of the Diploma in Education. The years 1971-73 were taken up with preparing and offering courses in a form suitable for distance learning. Academic staff in the schools prepared distance teaching materials and marked assignments submitted by extension students, while Extension Services accepted responsibility for the coordination, production and administration of the program.

By 1974, when Extension Services became an autonomous unit, the University came under pressure to extend its range of Extension Studies courses. A full Preliminary, the equivalent of the Sixth Form, platform available by distance education became the goal. By 1978 all Preliminary I or Introductory level courses were available, as were almost all Preliminary II or Foundation level courses, the main exceptions being those in the natural sciences. By 1975 the demand for degree courses led to the offering of an increasing range of Extension Studies courses at the 100-level, the first courses all being part of a program for a Diploma in Administrative Studies. In 1979 and 1980 the structure of these diplomas

was reviewed and replaced by several new vocationally-oriented certificate and diploma programs offered by the School of Social and Economic Development. These programs consist of some degree courses and some vocational courses. In 1983 the complete certificate programs in Accounting Studies and Administrative Studies were offered. The other vocational program available is the Certificate in Librarianship.

B. Pattern of Extension Studies Distance Education

Teaching is carried out at a distance by means of specially-written books, written assignments and often, audiocassettes. Many courses have textbooks as part of the study materials. The basic teaching and learning are done through these correspondence materials. Where possible, Extension Services staff in the regional centers also arrange for their students to meet regularly with a local tutor. Students are able to reach their local USP Center, especially those studying degree-level courses; they are also encouraged to participate in the regular satellite tutorial which are conducted by the campus-based Course Tutors. Some courses, particularly those in the science subjects, require attendance at formal laboratory or tutorial sessions and are therefore available only in special location.

Continuing Education and other outreach programs of the University were supported and strengthened until recently by the USPNET Satellite (ATS1) which are provided by NASA. The USPNET Satellite provided tutorial support for students working in remote locations. Along with Peacesat, it also offered the opportunity for regional discussion programs to strengthen educational services in agriculture, health, energy and marine resources. USP uses International Telecommunications Satellite Organization (INTELSAT) service to link USP with its distance students and Extension Centers by satellite. The original satellite link was made on 1 October, 17 years ago. In 1985 the University had to stop its satellite communications network when ATS1, the United States NASA satellite it had been using for educational work, drifted away from the area. For the last two years, the University has been working with the South Pacific Telecommunications Project of the South Pacific Bureau of Economic Cooperation to find a replacement. Arrangement has now been made to use INTELSAT service to link USP with its distance students and Extension Centers. Each University Center in each of the South Pacific countries is equipped with a satellite studio.

Most extension students are adults over 21 years of age and in employment. Some take one or two courses only because of a personal interest in a subject. Others enroll to build up their course credits

towards a Certificate program, others to obtain several credits towards a Diploma or Degree which may have to be completed on campus.

One source of finance for the Extension Services is the fees levied on extension students. There are three types of fees which are charged for courses. Tuition fee covers the cost incurred by the University in the teaching of the course and it also includes most of the course materials. This fee is \$40 for non-degree courses and \$50 for degree courses. It pays for the costs involved in providing tutorials, posting out assignment, timetables, conducting examinations, etc. Textbook fee is levied for purchase of textbooks required for some courses.

C. Programs Offered by Extension Services

The main programs available through Extension Services are as follows:

1. Preliminary Programs

The complete Preliminary program is available in either Science or Social Science. The Science Preliminary program consists of courses in English, Mathematics, Chemistry, Physics and Biology. It is available in alternate years only. The Social Science Preliminary program consists of courses in English, Mathematics, Geography and History/Politics.

2. Foundation Programs

This is equivalent to Seventh Form and is the common platform of University study currently required of students studying in all degree programs of the University. Admission to 100-level degree courses may be granted to extension students who obtain eight Foundation course passes in appropriate subjects. Some courses of the Foundation Science program may not be available through all USP Centers because of low enrollments or the lack of laboratory facilities or tutorial support.

3. Vocational Programs

These courses include some of the practical courses which are required as part of certificate or diploma programs. The following courses are offered: Certificate in Teaching English as a Second Language, Certificate and Diploma in Accounting Studies, Certificate and Diploma in Administrative Studies, Certificate and Diploma in Applied Computing, Diploma in Applied Statistics and Data Processing, Diploma

in Educational Administration, Certificate in Legal Studies, Certificate in Librarianship, Certificate in Pacific Language Studies, Certificate and Diploma in Community Development, Diploma in Agri-Business, and Diploma in Health Administration.

4. Degree Programs

These courses, equivalent in credit to degree courses taken by on-campus students, may be counted towards a degree program, and also some of the certificate or diploma programs referred to above. The degree courses available through the Extension Services are: Bachelor of Arts, Bachelor of Education, Bachelor of Technology, and Bachelor of Science.

5. USP Media Unit

The USP Media Unit is a part of the USP Extension Services. The Unit carries out such functions as: production of audio and video programs, production of educational materials, etc. The Unit provides media services for the whole University. It is geared primarily to developing educational materials. Students have access to language laboratory which is a section of the audio department operations of the Unit. The laboratory is used for English studies. The section copies tape recordings, record lectures, seminars, speeches, talks, discussions and other activities, and produces programs for broadcast. The Media Unit provides the University with equipment such as film projectors, tape recorders, loudspeaker systems and video screenings.

PARTICIPATION BY OTHER NON-GOVERNMENT AGENCIES

The South Pacific Commission regularly provides audiovisual communication training for trainees from Governments and Administrations in the region. The Commission operates a Regional Media Center in Suva. Communication, especially through radio is regarded as the heart of agricultural extension in the Pacific Region and as a result Radio Production Workshops are held at the Alafua Campus of the University of the South Pacific by the Institute of Research, Extension and Training in Agriculture. Recognition of the role of the radio in developing agriculture in the South Pacific had led to regular workshops on basic training in radio production techniques and various types of

communication media which could be used in the field. The Institute has also launched a radio program in a series on agriculture. The radio programs contain many issues and information on agriculture that should be of interest to countries of the South Pacific. The programs are produced and recorded at Alafua Campus and sent regularly each month to radio stations in the countries supporting the University of the South Pacific. It is part of IRETA's role in promoting the flow of information on agriculture.

PARTICIPATION BY GOVERNMENT ORGANIZATIONS

Various government organizations in their efforts to realize the aims and policies of the Government have resorted to the use of distance education. The Agriculture Department, in order to attain their objectives on improvement in the overall level of food self-sufficiency, concentration on selected commodities, efficient means of agricultural employment, extension of benefits of new technologies and research to farmers, promotion of greater management efficiency, improvement in the storage, processing and marketing systems for agricultural products, and increased local participation in proven economically viable agricultural ventures has focused on the provision of support and extension services. Agri-based educational programs are regularly provided over the air. In the fisheries sector, the Fisheries Department provides advice on exploitation, processing and marketing of marine produce through demonstrations, use of pamphlets and radio broadcasts. Educational programs in Primary Health Care, Food and Nutrition, Improvement of Health Environment, and Family Planning and Population Control have been developed by the Ministry of Health and some of these are regularly broadcast over the air. The Fiji Broadcasting Commission and other governmental and non-governmental agencies prepare and produce a number of educational programs with the aim to:

- (i) encourage self reliance;
- (ii) promote community-based services;
- (iii) encourage and promote more food production;
- (iv) promote cultural, educational and recreational programs for youth in rural and urban areas;
- (v) strengthen and coordinate women's activities in the overall development effort;

- (vi) develop skills in handicraft, garment making, preparing a wider variety of local dishes using local products; and
- (vii) improve environmental awareness, etc.

GOVERNMENT'S POLICIES AND PLANS REGARDING DISTANCE EDUCATION

For determining the Government's policy on distance education it is necessary to examine its policy on mass media together with its policy on education. These together will influence plans and strategies on distance education. In its Ninth Development Plan (1986-1990) the Government reiterates that the media has a vital role to play in fostering greater understanding and awareness of the values and customs of the various communities. The Government's policy, as regards the news media, is to support national endeavors, better inform the public about major national development problems and develop a unified approach to resolving them. The major objectives for the development of information and media during DP9 are to:

- (i) create an awareness and appreciation of national development goals;
- (ii) coordinate and disseminate as widely as possible, basic information on Government's development policies and programs;
- (iii) provide communication channels from the people to the Government so that full account is taken of their needs and aspirations; and
- (iv) enhance people's awareness and knowledge of their social, political and economic environment.

Of the programs identified for implementation during DP9 there are three with implications for distance education. These are: (i) Development Support Communication; (ii) Introduction of Television; and (iii) The Fiji Broadcasting Commission.

1. Development Support Communication

The objective of the Development Support Communication program is to make use of the Government's information and communication resources to help achieve its national goals. The Department of Information will consolidate and improve upon its efforts to coordinate

and provide audiovisual support requirements for the purpose of informing the people of the Government's development programs. Educational materials such as press releases, newsletters, articles for newspapers, certain publications, scripts or pre-recorded tapes for radio stations, slides and videotapes for mobile video and film units will be produced.

Radio will continue to remain the best means of disseminating information to the public, particularly to people in the rural areas. The Department of Information will devote a greater portion of its time and resources to cultivating a strong professional link with the Fiji Broadcasting Commission. The Department's vernacular radio programs will continue with the style and presentation kept under constant assessment to maintain high listener appeal.

2. Introduction of Television

With the Government's support and approval, the introduction of television is inevitable but the Government intends to ensure it has a say in the types of programs that may be telecast. The production of local programs will be actively encouraged. This, therefore, has implications for the preparation and production of educational programs. Considering the status of available resources and personnel, it appears that the Extension Services of the University of the South Pacific will be in a position to take full advantage of television as a medium for distance education. On the other hand, the Schools Broadcast Unit of the Ministry of Education will need to be greatly expanded if it is to utilize the television service. The Ministry of Education in its Program Statement (1985) states that SBU will be streamlined so that it can help more fully in the delivery of the education system, especially for those in the more remote and isolated parts of the country.

3. The Fiji Broadcasting Commission (FBC)

The main objectives formulated for FBC are to:

- (i) improve, consolidate and expand those services which will play a larger role in national development; and
- (ii) increase the level of rural coverage.

The decentralization of FBC and facilities will be continued. Studio facilities will be established in the Northern Division to provide better services. The possibility of establishing self-contained community stations, with their own recording studios and small transmitters which can

concentrate on local needs and issues, will be investigated. FBC's transmission facilities will continue to be upgraded to ensure that listeners throughout Fiji have strong, clear reception. The establishment of community stations and upgrading of transmission facilities should lead to improved radio reception in remote areas. This would therefore help resolve the problem of poor reception by schools in the outer islands.

4. Ministry of Agriculture

During the current Five-Year Development Plan, the Agriculture Department intends to strengthen its extension services to ensure that the desirable results are effectively transmitted to farmers. One method of realizing this is the more effective use of media to impart educational programs on agriculture.

5. Financial Provision

- (i) The education budget (1985) for the introduction of new technology (computer, video, etc.) was estimated as:

	\$135,000
Purchase of tapes and cassettes	2,000
Purchase of Master Deck	2,800
- (ii) Media Development: Indicative Expenditure 1986

(a) Development Support Communication	\$ 77,700
(b) Television	10,000
(c) Fiji Broadcasting Commission	
Decentralization	100,000
Technical Upgrading	15,000

SCOPE FOR INVOLVEMENT OF INTERNATIONAL AGENCIES

Technical assistance and/or financing from external sources will be sought in the following areas:

- (i) supply of radio cassettes and tapes to all primary and secondary schools;
- (ii) training of SBU staff in the skills related to preparation, production and delivery of radio broadcast educational programs;

- (iii) expansion of current facilities at SBU to accommodate the production of non-formal educational programs and programs for television and videos;
- (iv) establishment of a fully equipped distribution resources center carrying educational materials such as videotapes, audio-cassettes, slides, films, filmstrips, charts, posters, etc.; and
- (v) a professional educational broadcast consultant to train broadcast staff.

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EDUCATIONAL STATISTICS (1985)

A. Population as of 1985

Dec. 1984	All Age Groups 0-75+	5-9 9-10 Yrs	10-14 11-17 Yrs	15-19 18-25 Yrs	20-24 26-45 Yrs	25-44 Yrs	45 and Above
Total	690,681	81,115	78,032	75,318	69,968	187,411	104,840
Male	348,514	41,663	39,791	38,226	35,269	93,143	52,092
Female	342,167	39,452	38,241	37,092	34,699	94,268	52,748
Rural	63% approx.						
Urban	37% approx.						

B. Educational institutions

Enrollment 1985

	Number	Boys	Girls	Capacity	Trained	Untrained
<i>Primary Schools</i>						
Total	668	65,365	61,921		4,351	45
Rural	535	37,489	34,987		2,786	29
Urban	133	27,876	26,934		1,565	16
<i>Secondary Schools (Grades VI-XII)</i>						
Total	139	20,822	20,683		2,411	310
Rural	78	8,541	8,666		1,026	115
Urban	61	12,281	12,017		1,385	195

C. Distance education and status of broadcasting, printing, postal services in the country

1. *Distance Education Institutes*
Refer to the body of the paper.
2. *Radio Facilities (Production and Broadcasting Facilities for Education Programs)*
3. *TV Facilities (Production and Broadcasting Facilities for Educational Programs)*
 - Total Capacity
 - Level of Utilization
 - Scope for Expansion
4. *Number and Percentage of Electrified Villages*
29,000 out of 74,540 rural households have electricity. 193 out of 2,400 villages have electricity. This includes the largest villages.
5. *Status of Printing Facilities in the Country*
Satisfactory. There are several privately-operated printing enterprises and there is a modern Government Printing Department.
6. *Postal Services in the Country*
Satisfactory but owing to the geographical scatter of the smaller islands, it takes time for mail to travel between them and the postal agencies.

Distance Education in Hong Kong

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN HONG KONG

(This paper sets out the present provision of distance education in Hong Kong and the likely areas of development in the future.)

A. The Concept of Distance Education in Hong Kong

Hong Kong has no mineral wealth, not enough arable land to feed its people and no fresh water other than that which falls as rain. Its only natural resource is the industry and ingenuity of its people and education is accepted as the only effective means of developing that resource and thus accounts for the largest proportion (18 per cent) of the Hong Kong's public expenditure. "Distance education", as its name implies, is a teaching and learning process where there is a separation of space and time between the teacher and the learner. Traditionally, this form of education has been used where the wide diffusion of the population poses difficulties of logistics and resources for conventional teaching methods.¹ But it is also well-suited to Hong Kong, where overcrowding makes provision of conventional teaching difficult and long working hours make desirable the flexibility in timing which distance education provides.² Hong Kong has not yet, however, implemented extensive distance learning programs. The Government's education policy has focused on providing a basic education for Hong Kong's rapidly growing student population, increasingly comparable to that provided in Western Europe. The last major stage in this process was reached in 1978, with the introduction of free and compulsory education up to and including the junior secondary level.³ During this period of providing a basic educational infrastructure, little emphasis could be placed on the sophisticated techniques of distance education. Now, however, radical proposals have been made to establish a major open learning program in Hong Kong, to meet the need for this type of education, which has been created here partly by the very success of the Government's rapid expansion of conventional education. This will inevitably involve the widespread use of distance learning techniques.

The demand for trained manpower in Hong Kong is certainly no less than in other developing and newly developed countries and the rapid growth planned for education at university degree level reflects this demand. The level of provision of first year first degree places is

¹ Commonwealth Meeting of Specialists, *Distance Teaching in Higher Education*, January 1983, p. 3.

² Hong Kong Education Commission, Report No. 2 (ECR2), pp. 143-146.

³ "The Hong Kong Education System," June 1981, para. 2.5.

expected to increase by more than 100 per cent during the next ten years. Consideration has been given to the establishment of a university using distance learning techniques, along the lines of the Open University in the UK (UKOU). Having consulted its main adviser on higher education – the University and Polytechnic Grants Committee of Hong Kong, which has a membership of internationally-known academics and local community leaders – the Government has decided against the establishment of such an institution because of constraints such as the lack of necessary academic and technical expertise.⁴ The appropriate course to be charted in the development of distance learning in Hong Kong is discussed below.⁵

B. Review of Distance Education Projects in Hong Kong

The current provision of distance education at the post-secondary and tertiary level is limited. One of the local universities conducts various secondary level courses using distance learning including radio courses with the Chinese channel of a radio station funded by the Government. That university also offers correspondence courses and provides over 20 self-learning programs conducted in the form of taped audio lectures, as well as a course by newspaper program. Another of the five degree-awarding institutions in Hong Kong is jointly offering a degree program, using distance learning techniques, with an American university. Students receive lecture and study materials and complete required course work by correspondence.

The Management Development Center of the Vocational Training Council of Hong Kong is building up a collection of materials for distance management learning, mainly from the UK, USA and Australia. These materials will principally be for the use of management trainers in companies and management teachers in academic institutions in developing their own activities.

Also at the secondary level, a Multi-Media Education Programme holds a partial distance learning course for persons aged 15 and over. This program, which is privately run, is partly supported by funds from the Adult Education Subvention Scheme established by the Government in 1980 to provide financial assistance for courses designed specifically to meet the needs of those who do not have the advantage of a good formal education. The Education Programme utilizes self-study class, telephone tutorials and informal teacher-student contact. Tutorial

⁴ Hong Kong Education Commission, Report No. 1 (ECRI), pp. 71–76.

⁵ See Section on Government's Policies and Plans Regarding Distance Education.

Centers are open mainly at weekends, while the telephone tutorials operate on weekday evenings. Students enrolled in the course are supplied with course books and in some cases workbooks and worksheets, which are returned periodically and marked by individual tutors. Students are expected to complete one level of the program (there are five levels: Forms 1 to 5 within one or two years). A wide range of subjects is offered. School subjects offered in the junior secondary levels are languages, history, integrated science, social studies and mathematics. For the senior secondary levels, there are languages, history and literature, mathematics, science subjects, economics and accounting. Besides school subjects, students can study commercial and recreational subjects. There are some 4,000 persons enrolled in this Programme.

In addition, the Open College (OC) of the University of East Asia (UEA) in Macau offers a wide range of distance learning courses to its students, many of whom are Hong Kong residents. There are no formal educational requirements for admission to any of its four schools (Arts, Business, Mathematics and Science) and foundation courses therefore play an important part in bringing students up to internationally acceptable college standards. The full-time student equivalent enrollment in degree and other courses at OC stands at 1,050. The possible role of the OC in the future development of distance education in Hong Kong is discussed below (see section on the 'Proposed Open Education Consortium').

The above paragraphs refer exclusively to distance learning in open education. In addition to this, the Government also spends approximately \$18 million per annum on distance learning in conventional education through its Educational Television Service. Courses in six subjects at primary level and five subjects at junior secondary level are available in this medium, including the basic subjects of Chinese, English and Mathematics.

C. Other Types of Open Education in Hong Kong

The view of distance education taken in Hong Kong has naturally been conditioned by Hong Kong's special circumstances and by the history of its educational development. The rapid expansion in its primary and secondary education sectors, with free and compulsory primary education being achieved in 1978, coupled with the rapid expansion in senior secondary and tertiary provision at the present time, has resulted in a situation where substantial numbers of people who had the ability to advance further educationally were unable to do so because of lack of provision in the various sectors at the relevant times.

The view of both the Government and people of Hong Kong is to give priority outside the conventional education system to the provision of open education as a means of providing retrieval opportunities for those who had been disadvantaged. Historically, this has involved the application of distance learning techniques on a relatively limited scale, owing to the compact nature of Hong Kong and to the more urgent educational priorities referred to earlier. The opportunities offered by *other* forms of open education are, however, already significant. For the sake of completeness, these are briefly discussed in the following paragraphs. Courses available cover the primary, secondary and post-secondary levels as well as non-academic subjects.

The Departments of Extramural Studies of the two local universities offer some 1,200 courses each year to over 55,000 students at a number of centers throughout the territory. The majority of these courses do not lead to the award of formal academic qualifications. Diploma or certificate courses, however, are offered in subjects such as Management, Engineering, English, Journalism, Librarianship, Computer Science, Housing Studies and a number of Art subjects. The range of disciplines covered by the extramural courses is very wide – Art and Design, Languages and Literature, Economics, Banking and Statistics, Management Studies, Education, Engineering, History and Geography, Journalism and Communication, Law, Librarianship, Music, Philosophy and Psychology, Physical Sciences, Political Science, Biomedical and Health Science, Social Work and Sociology.

The other three higher education institutions in Hong Kong also offer evening and part-time courses. As in the case of the courses offered by the Extramural Studies Departments of the two universities, some of these courses lead to the award of a diploma or certificate.

On a more practical level the Vocational Training Council of Hong Kong offers a variety of courses. They are:

- (i) courses leading to formal craft and technician qualifications;
- (ii) courses for those who wish to find employment in industry or commerce and to enable those who are already employed in these fields to acquire new skills or update their work knowledge; and
- (iii) technically-biased leisure interest courses.

At the primary and secondary levels, formal open education courses are offered by the Adult Education Section of the Education Department of the Hong Kong Government and by various voluntary agencies whose programs are subvented by the Department.

The Education Department offers the following formal courses:

- (i) primary level courses, viz.—
 - (a) Adult Education Courses (General Background); and
 - (b) General Adult Education Classes
- (ii) secondary level courses, viz.—
 - (a) Six-Year Secondary School Course; and
 - (b) Five-Year Secondary School Course for Adults
- (iii) English courses;
- (iv) teachers' courses; and
- (v) courses at the Evening School of Higher Chinese Studies.

The primary level courses⁶ provide a retrieval program for adults aged 18 and over to equip them with the fundamental skills of reading, writing and numeracy. The Adult Education Course (General Background) operates at three levels, equal to Primary 3–4, Primary 5 and Primary 6. Classes are held in the evening. Tuition is free. No formal qualification is awarded at the end of the course. The majority of students are factory workers aged between 18 and 30. A number of General Adult Education Classes at the primary level are jointly operated with other government departments, including a course for inmates of correctional services institutions and drug addiction treatment centers and a course for mentally retarded adults.

At the secondary level⁷ the six-year course operates Chinese and English streams for persons aged between 15 and 21 and leads to the Hong Kong Certificate of Education Examination (HKCEE), a public examination for all secondary school graduates. The five-year course also operates Chinese and English streams and leads to the HKCEE, but is for persons aged over 18.

English courses⁸ are offered for adults aged 18 and above, at three levels. Teachers' courses lasting from one to three years are offered and aim at serving both trained and untrained teachers. Subjects offered include English, Putonghua, physical education, gymnastics, art and craft, music, modern educational dance, folk dance, oriental dance, educational communications and technology.

Under the Adult Education Subvention Scheme, the Hong Kong Government provides financial assistance to organizations in the provision of retrieval courses, i.e. courses designed specifically to meet the needs of those who do not have the advantage of a good formal

⁶ 1985/86 enrollment – 972.

⁷ 1985/86 enrollment – 7,539.

⁸ 1985/86 enrollment – 6,821.

education, particularly those from the low-income groups. Twelve courses are eligible for subvention – four formal education courses and eight short, non-formal courses. The formal courses are:

- (i) basic literacy;
- (ii) general education;
- (iii) pre-vocational training; and
- (iv) the multimedia education program.

The non-formal courses are:

- (v) social and moral education;
- (vi) labor education, including legal knowledge;
- (vii) special education for physically and mentally handicapped adults;
- (viii) career education;
- (ix) pre-retirement/retirement education;
- (x) job-oriented courses;
- (xi) activities in geographical areas not covered by the Education Department's services; and
- (xii) orientation for newcomers.

The Education Department also provides free non-formal education courses to adults aged 18 and over (mainly factory workers). Courses offered include language, practical subjects, physical fitness and music. There are no entry requirements. Average annual membership is 24,000.

D. Main Objectives and Target Population

It has been noted above why distance learning is appropriate to the Hong Kong situation. The factors which make open education *in general* important in Hong Kong include the large reservoir of persons whose educational standards do not, for historical reasons, match either their expectations, their potential or their social and financial position; the increasing prosperity of the territory, with the consequent demand for more opportunities to obtain personal fulfillment through additional education; and the strong emphasis traditionally placed on educational attainment by local society.⁹ Given these considerations, the target groups for the territory's future open education program will be:

⁹ "A Perspective on Hong Kong Education – Report by a Visiting Panel," November 1982, p. 77.

- (i) those who have been denied the opportunity of further education when they left school;
- (ii) those who discover an interest in, or a use for, further education later in life; and
- (iii) those who wish to be retrained in order to change their career or vocational skills.¹⁰

E. Management and Financing of Distance and Open Education

The management and financing of distance and open education in Hong Kong fall into three categories:

- (i) provision offered and financed by Government through its Education Department;
- (ii) provision offered by non-government organizations, with subvention from the Government; and
- (iii) provisions offered by non-government organizations, with courses being self-financing.

Provisions in categories (i) and (ii) are mainly academic courses at the primary and secondary level. In academic year 1985-86, the Education Department spent HK\$26 million on adult open/distance education courses directly operated by it. In addition, HK\$4 million in subvention was allocated in the same year to 50 organizations for the provision of such courses. While courses at primary and secondary level are provided or funded by Government, post-secondary courses are offered by non-government institutions. This, in a way, follows the norm in full-time formal education where tertiary institutions are autonomous entities, although full-time higher education is subsidized heavily by the Government.

F. Strengths and Weaknesses of Current Provision

The current provision of distance learning covers only a limited number of subjects and levels of study, though this shortcoming is compensated, to some extent, by the other open education courses which are available. Overall, however, distance and open education in Hong Kong suffer from two fundamental structural problems. The *first* problem is the lack of courses at sixth-form level. The demand for such

¹⁰ ECR2, p. 136.

courses is expected to increase as a result of current efforts to expand opportunities for senior secondary education. This will inevitably result in more students being qualified for sixth-form places. Furthermore, as more people complete a five-year secondary education, it will increasingly require a sixth-form qualification to secure a satisfactory job. The *second*, more serious problem is the insufficient provision for degree level studies. The increase in the number of sixth-form graduates will produce an increase in the demand for degree level courses. This is a result of numbers, as well as of the competition for jobs which encourages people to try to upgrade their qualifications. The lack of opportunities for the large number of adults in full employment, who wish to attain post-secondary qualifications in a flexible but efficient manner, is indeed the major problem to be tackled by the new open education program now being looked at by the Government and discussed in the section on the proposed open education consortium. Finally, in addition to these two major structural problems, some of the specific disadvantages of the present open education available in Hong Kong are outlined below in the section on open education at the post-secondary level.

SCOPE FOR FURTHER EXPANSION OF DISTANCE EDUCATION IN HONG KONG

In general, it is clear that the greatest potential for the development of distance education (and open education in general) is at the post-secondary and tertiary level. Demand for courses at this level is enormous and is likely to remain so. At present less than 4 per cent of the mean 17-20 age group in Hong Kong can obtain a first year first degree place. Plans are underway to increase more than two-fold the provision of such places within the next decade. But despite such rapid expansion, it is likely that substantial demand will remain unmet. There are also potential students who are prevented by age and/or lack of the required formal academic qualifications from taking up conventional tertiary education.

It is difficult, however, to assess the *precise* demand for open education and distance education at the tertiary level. Besides individuals' demand for education, there is also the need of society for manpower in specific areas at various times. The pace of change in a developed society and economy is such that initial training at both sub-degree and degree level is quickly out of date in many fields. Updating and retraining are thus important tasks for our society. High technology may be an issue that requires special efforts. For those with

sub-degree qualifications the process of enhancing their qualifications may involve advancement to degree level; degree holders may need advanced diplomas or second degrees. An analysis might suggest an order of priority for the areas in which an open education program should develop. In the long run at least *the major requirement is likely to be seen as a broad and balanced program covering all post-secondary levels.*

GOVERNMENT'S POLICIES AND PLANS REGARDING DISTANCE EDUCATION

A. The Education Commission¹¹

The Education Commission in Hong Kong comprises private citizens representing various sectors of education and leaders of the community. It advises the Governor of Hong Kong on the education system as a whole in the light of the needs of the community. The Commission recently included 29 recommendations on open education in its second major Report on Hong Kong's educational system. The Administration is now consulting the public and educational institutions on the details of these recommendations. It is likely that decisions will be made early 1987. Although the proposals are thus at a consultative stage only, they have already received wide support and may be regarded as a blueprint for the future development of distance education in Hong Kong.

B. Open Education at the Post-Secondary Level¹²

As has been shown above, there are already a variety of courses available in Hong Kong which meet parts of the potential demand for continuing education and retraining. Except, however, for a few research-based second degree courses, these courses are operated on the basis of contact teaching, following predetermined timetable. The student is required to be available at specified times on a regular basis. If he cannot comply with this requirement, he cannot complete the course. For many working people this is obviously a major problem.

For the courses which lead to formal exit qualifications, the student also has to have specified entry qualifications. For the lower level

¹¹ For background in more detail, see ECR2, Chapters I and II.

¹² ECR2, pp. 140-143.

certificate qualifications, these requirements may not be exceptionally rigorous, e.g. a number of passes at HKCEE. For the higher level qualifications, the requirements usually are the same as those for full-time study. Since the number of places on contact-teaching courses is inflexible, entry is also competitive: only those offering the best qualifications are admitted. There is thus a tendency for opportunities in continuing education to be constrained by the student's attainments in (full-time) secondary education.

In addition, most of the available courses represent "single opportunities". That is to say, a student with HKCEE qualifications can gain admission to a certificate level course; a student with A level qualifications may be admitted to higher diploma, professional diploma or degree level courses. But there is only very limited linkage between the various levels of qualifications; an example of this is from diploma to higher diploma status. Although it may be possible to proceed from a certificate to a higher certificate it is difficult to transfer to the higher level of the various diploma courses, or from there to degree level. Thus a student's ultimate attainments remain constrained by entry qualifications gained in full-time school education. There are few ladders or bridges of opportunity, an important concept in continuing education.

Another problem is that most part-time courses on offer in Hong Kong represent a very high degree of specialization, usually with a strong vocational bias. There are few of the more general programs in either the arts subjects or the pure sciences which would satisfy the requirements of those who seek the more general academic qualifications, either for their own sake or as part of the process of developing their basic academic studies to the point from which they may wish to choose a specialist application.

The above considerations led the Education Commission to suggest, in its most recent Report, that *Hong Kong should develop a program of open education at the post-secondary level*. This program should encompass the full range of post-secondary studies, starting at a level-related to school leaving qualifications and extending to degree level. The structure of the program would probably require limited and specific entry points, but it should be able to cater for entrants with a range of (including minimal) formal academic attainments. It should also have multiple exit points (e.g. certificate, diploma and degree level) appropriate to the requirements of its students.

C. The Need for Distance Learning¹³

In the same Report, the Commission emphasized that, as Hong Kong expanded the provision of open education, distance learning would become more important. If a comprehensive open education program is to reach its objectives in terms of making opportunities available to the largest potential market, then distance learning techniques are necessary.

Contact teaching requires teachers or lecturers who will themselves prepare a large part of the material to be delivered. It usually means that a course can only be offered to classes of a relatively inflexible number of students, a number of whose lower range is determined by considerations of economy and whose upper range is limited by manageability, all able to attend at a fixed time. There is a constraint on the number of classes that can be offered, due to the availability of suitable teachers and a further constraint on who can get into those classes, due to the need for students to have closely matching rates of comprehension (linguistic and intellectual). Distance learning is not constrained to the same extent. First, "class" sizes can be much more flexible, because the greater reliance on pre-prepared materials means that tutors or proctors rather than lecturers are required. Tutors may be more readily available than lecturers: for example, research students and suitably qualified graduates not otherwise involved in academic work can be used as a supplement to full-time academic staff. Second, the students are not bound by the rigors of a lecture-hall timetable; such spare time as they have can be used flexibly for studying. Third, the student is able to determine his own pace through a course to a greater extent, so distance learning can cope efficiently with the student with varying amounts of time available for study, and varying rates of comprehension. Last but not least, distance learning, in which the principal cost is the pre-prepared material, shows economies of scale proportionate to student numbers on a course, whereas the costs of contact teaching rise in fixed increments.

There is also greater flexibility in structure and content. Because, in distance learning, it is the availability of pre-prepared material rather than lecturers and economic class sizes which is the critical constraint, it is possible to offer a variety of linked courses which will lead the students through a far wider range of studies, both basic and specialist.

¹³ ECR2, pp. 143-146.

A characteristic of distance learning is its emphasis on "certification by attainment": that is, the student proves his mastery of a course of study at a specified level by his results in continuous assessment (which may or may not be part of the assessment for a final award) before coming to final course exams. With properly prepared course material and structure (and the use of criterion assessment), it is thus possible for the student to proceed from a relatively low entry level to the highest levels with assurances about mastery and ability available to both student and institution. The concept of certification by attainment is novel to Hong Kong, but proven elsewhere. It is the application of this technique of distance learning that makes open education a practical proposition rather than a theoretical possibility. The emphasis placed on achievement during the course of study means that less emphasis is required on entry qualifications, and it is thus possible to adopt a more liberal approach in determining who can join a course.

Distance learning, of course, also has fewer requirements for physical infrastructure than a conventional institution. The UKOU courses dispense with this to a very large extent.

It should also be noted that distance learning is not dependent upon the availability of channels in the electronic media. The value of audiovisual and audio material is great, but the mode of delivery has shifted in favor of pre-prepared tapes instead of live broadcasts. Nevertheless, access to this material is one reason why even the UKOU needs well-equipped study centers. Distance learning techniques have varying levels of sophistication and can function with complete dependence on written material, but the best practice seeks to augment the written material with other approaches which do involve physical infrastructure.

A distance learning program in Hong Kong should look to the future, and the possible use of advanced techniques such as teleconferencing and cable television. In particular, cable television is likely to be available in the near future, and it has been suggested that one channel at least should be reserved for this role. These features, however, are desirable but not essential. It would be quite possible to start and run a program using as its technological infrastructure only the existing mail and telephone systems.

D. Entrance Requirements¹⁴

A critical question in the development of any open education program in Hong Kong – irrespective of the extent to which it is

¹⁴ ECR2, pp. 147–149.

conducted through distance learning techniques – is how “open” the opportunities in the program should be. There are three theoretical possibilities:

- (i) complete openness: that is, admission to courses unconstrained by qualifications but on a first-come first-served basis;
- (ii) restricted entry: requiring those seeking admission to have the same formal academic qualifications as would be required for comparable courses in conventional institutions; and
- (iii) qualified openness: requiring those seeking admission to have some formal academic qualifications but not necessarily those that would be required by conventional institutions.

The UKOU is an example of the first option. The UKOU practice is to admit anyone (subject to a minimum age limit of 21 years and the constraints of a waiting list) and then to require them to take foundation courses in the broad field of study chosen. Foundation courses have three functions:

- (i) They serve as a test of intellectual aptitude. The student has to be able to complete one or more foundation courses before proceeding with course work. The standards of the UKOU foundation courses are now recognized to the point that some British universities accept them in lieu of A levels for admission to conventional programs;
- (ii) They inculcate in the student the necessary techniques and disciplines of self-study; and
- (iii) They bring the student up to the standard of knowledge necessary to commence the course work (or serve as a refresher course for those returning to academic work after a lapse of time).

The first of these functions means that “complete openness” is in practice highly conditional; no one is denied the chance of access, but the first requirement thereafter is that they should establish their qualifications.

This approach reflects a fundamental difference between conventional education and open education. Conventional education is “validated” by both the entry and exit qualifications of its participating students: that is, the institution in effect prejudges the intellectual quality of the student by the fact of his admission. His final award represents the value added or progress demonstrated by his studies in

the institution. Its standing is judged in part by the entry qualifications on which it is developed. Open education, the basis of which is certification by attainment, involves fewer assumptions about the student's knowledge and ability. Foundation courses, and the assessment of the student during his course work, substitute largely for the rigorous admissions standards imposed in conventional education; the exit qualification is seen as being of paramount importance in establishing the student's attainment.

The value of foundation courses is such that they are likely to form an important part of Hong Kong's future open education program at this level. If foundation courses are used properly, the formal academic qualifications required for conventional courses should be unnecessary. It is difficult to justify "qualified openness", requiring students to have some formal academic qualifications but of a lesser standard than conventional institutions would require for a comparable course, other than as a filter: a pre-selection process for admission to foundation courses in the early stages of the program, in the interests of reducing high initial dropout rates and ensuring that the program got off to a good start; fairness to the backlog of relatively highly qualified candidates previously denied post-secondary education; or as a justification for supporting students through publicly financed grants or loans. On these grounds it can be justified, but the arguments for any form of filter as a means of pre-selection are administrative, not educational. If adopted in Hong Kong, it may be as an interim measure only, subject to periodic review.

E. The Proposed Open Education Consortium¹⁵

Hong Kong's Education Commission has considered two possible ways of trying to organize a program of open education in the territory, other than by establishing a new autonomous institution along the lines of the UKOU, which was rejected for the reasons stated earlier.

The *first* option is the creation of a coordinating body which would determine which institution would offer which course, thus avoiding duplication of effort (or promoting multiple efforts in areas of high demand) and ensuring that coverage is comprehensive.

On the face of it, this would be the simplest approach to the problem. It would, however, involve considerable difficulties. First would be the question of a student's enrollment. If the necessary diversity of course components were to be achieved, then it would be

¹⁵ECR2, pp. 150-164.

necessary to operate a modular credit unit system, with different modules being offered by different institutions. If the participating institutions are acting only as part of a loose federation, then there may be difficulties in ensuring compatibility of entry qualifications.

More serious would be the problems of who would make final awards to students, and the acceptability to the award-conferring institution of the credits obtained by students at other institutions.

Another problem would be the actual administration of such a scheme. The decentralized nature of a cooperative venture implies that the financing of courses, the preparation of course material and the provision of teaching staff and other resources such as laboratories and libraries would all be at the discretion of the individual participating institutions.

The Commission believed that something more than the cooperation of autonomous institutions would be required for an effective program. It therefore recommended consideration of the *second* option, viz. a consortium approach. The participating institutions would constitute a consortium for the purpose of operating this program, but in subscribing to it would accept that the consortium was (in some sense) an authoritative body. The consortium would allocate responsibility and funds for the preparation or selection of materials, ensure compatibility of standards and deal with the allocation of resources.

The consortium would not be an embryonic autonomous institution but an effective moderator between the participating institutions, which would probably be the five major higher education institutions in Hong Kong. The consortium would represent their joint efforts; to a large extent its academic standing would derive from them. Nevertheless, it would be the entity in which the students enrolled, rather than in an individual participating institution, and the awards given to students would be in the name of the consortium. It would thus expect to achieve an identity and reputation of its own, and it would need its own senior academic staff to back this standing.

There is no novelty in the Commission's proposed approach. It has already been the basis of the successful Canadian open education venture, the Open University Consortium of British Columbia.

The Hong Kong open education consortium, if and when established, would probably have the following functions and responsibilities:

- (i) to set priorities and to plan the development of a comprehensive post-secondary program;
- (ii) to commission participants to operate component courses through tutorial support;

- (iii) to approve the use of distance learning material and negotiate with originating institutions for its use and development;
- (iv) to commission, where appropriate, the local development of course material;
- (v) to appoint external examiners to validate course work and examination results;
- (vi) to organize the necessary supporting services (access to libraries, laboratories, computers, study centers, etc.) through its own center and, when appropriate, at participating institutions or their study centers;
- (vii) to operate a student counselling service to advise students on their study programs;
- (viii) to consider students' standing for purposes of credit transfers and recognition of advanced standing; and
- (ix) to confer degrees and other qualifications on students.

The consortium would have control over all funds used in the program. It would receive funds from students; it would give grants to participating institutions for the operation of courses and provision of any other services. This would mean that the consortium would reimburse institutions for the costs of additional staff employed to operate courses or to produce material, since the institutions could not take on additional commitments on behalf of the consortium without additional resources.

The long-term objective would be that the consortium's program should be as far as possible self-financing, i.e. that students should meet the direct costs of the courses which they take. This would have to be studied carefully by the consortium. A view would have to be taken on affordability for students. Cross-subsidization of less popular courses might well be necessary. The costs of developing new or supplementary material would also be considerable. The consortium would need to build up its enrollment rapidly, as unit costs in distance learning drop dramatically as numbers increase.

The consortium would be free to consider which other institutions of higher education should be brought into this scheme, and what relationship they should have with the consortium. A particular issue which would have to be faced is whether, and under what circumstances, the Open College (OC) of the University of East Asia should be involved in the program, should it seek such involvement. The OC has become an experienced practitioner of distance learning in Hong Kong. It has established credibility through its extensive credit transfer

agreements with the UKOU and other recognized commonwealth institutions. These are factors which the consortium would no doubt consider should the OC make an application to join it.

The basis of the operation of the consortium's program would be through written course material supervised by tutors. Students' performance would be graded both by continuous assessment of course work and in general examinations at the end of each course unit. External assessors and examiners would be used to monitor the assessment of course work and examinations.

The consortium might develop its program through the following three basic schools:

- (i) commercial and social sciences;
- (ii) arts and humanities; and
- (iii) mathematics, science and technology.

Linked courses at appropriate hierarchical levels would lead to standard qualifications in these fields, but the range of electives on offer would mean that study in any one field could draw in courses from other fields.

F. Distance Learning Courses Offered in Hong Kong by Overseas Institutions¹⁶

Quite apart from the OC, there is likely to be a role for overseas academic institutions to play in the provision of distance learning courses at the post-secondary and tertiary level in Hong Kong. Even if a comprehensive local program can be established, it is unlikely to be so comprehensive as to cover all possible specialist requirements and external institutions may well be able to fill such gaps.

Besides offering appropriate courses locally, or trying to operate them from an overseas base, overseas institutions may link up with post-secondary institutions in Hong Kong to offer their own awards through those colleges. An existing example of such an approach was cited above. While welcoming the benefit that may be derived from this provision. There is certainly a case for continuing public safeguards, on the same grounds that there is regulation of conventional education in Hong Kong; the public needs to be protected from the incompetent and the substandard. Each case will be treated on its merits, and specific conditions may be laid down for each applicant to fulfill.

¹⁶ ECR2, pp. 164-171.

The two objectives of policy as regards external institutions should be *first*, to ensure that what is offered is of a satisfactory standard and *second*, to encourage the external institution to involve Hong Kong post-secondary institutions where possible. It follows from this that the sort of guidelines which would serve as general conditions might be:

- (i) that any qualification offered on an external basis must have full equivalence with the comparable institution and that external examiners and assessors would be used to ensure this equivalence;
- (ii) that the only programs which could be represented as degree programs would have to be offered by a recognized Commonwealth degree-awarding institution or, in the case of US institutions, an accredited institution listed as such in the current issue of the "Accredited Institutions of Post-Secondary Education" of the Council on Post-Secondary Education;
- (iii) that the overseas institution should *either* operate under the auspices of a local sponsoring post-secondary institution *or* provide its own local center of operations, in either case demonstrating ability to provide the supporting facilities appropriate to the program(s) proposed (e.g. tutorial staff, libraries, computers, laboratories, study centers and administrative support);
- (iv) that the course material would be based on recognized distance learning techniques involving periodic assessment of course work as well as final examinations, and local tutor-student communication;
- (v) that the course material and the award offered must be recognized by the Hong Kong Council for Academic Awards (HKCAA) as being appropriate to academic studies in Hong Kong, and if necessary new material would be developed, subject to HKCAA approval, to ensure this;
- (vi) that the overseas institution or local sponsoring institution would provide adequate resident academic staff to support the programs (and where necessary, the overseas institutions should arrange suitable opportunities for the academic development of the local institution's staff to the point where they could conduct the program);
- (vii) that the HKCAA should make periodic assessments or otherwise monitor these programs to ensure that they remained up to standard; and

- (viii) that the administration of the program would be entirely separate from any program conducted by local sponsoring institutions which used public funds, and made no direct or indirect use of such funds.

G. Concluding Remarks

Hong Kong is at the threshold of a major expansion in the field of open learning. This will inevitably involve the widespread use of distance learning techniques, even though the particular physical conditions of Hong Kong may limit the benefits conferred by distance education as compared with other countries.

EDUCATIONAL STATISTICS
(1985)

A. Population as of 1985

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	5,422,800	162,100	601,400	906,600	1,649,600	1,349,400
Male	2,806,100	84,300	312,300	466,400	880,300	672,400
Female	2,616,700	77,800	289,100	440,200	769,300	677,000
Rural	-	-	-	-	-	-
Urban	5,422,800	162,100	601,400	906,600	1,649,600	1,349,400

B. Educational Institutions

Enrollment (1985)						
1. Primary Schools	Number	Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	736	279,937	254,966	690,369	16,232	3,144
Rural	-	-	-	-	-	-
Urban	736	279,937	254,966	690,369	16,232	3,144

Enrollment (1985)						
2. Secondary Schools (Grades VI-XIII)	Number	Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	424	223,149	221,372	463,372	10,157	7,506
Rural	-	-	-	-	-	-
Urban	424	223,149	221,372	463,372	10,157	7,506

Enrollment (1985)					
3. Post Secondary Colleges	Number	Boys	Girls	Capacity	Faculty
Total	2	2,166	2,205	4,371	6
Rural	-	-	-	-	-
Urban	2	2,166	2,205	4,371	6

Enrollment (1985)					
4. Universities	Number	Boys	Girls	Capacity	Faculty
General	2	9,103	5,524	14,627	16
Technical	-	-	-	-	-

5. Professional Colleges	Enrollment (1985)				
	Number	Boys	Girls	Capacity	Faculty
Medical*	2	942	224	1,166	2
Engineering/Technology					
Agriculture					
Teacher Training					
- Primary Teacher)	4	1,358	2,920	4,566	-
Training)					
- Secondary Teacher)					
Training)					

6. Technical Vocational Training Institutes	Enrollment (1985)				
	Number	Boys	Girls	Capacity	Faculty
Polytechnics					
Technical Training Centers					
Commercial Institutes					
Vocational Training Institutes					
Others (specify)					
Hongkong Baptist College	1	1,034	1,172	2,206	183

7. National Education/Training Institutes

There are no national institutes, if national means both direct control by Government and accessibility to all citizens of the territory irrespective of areas of residence. The institutions of higher education accept students from all over Hong Kong but, despite their heavy reliance on Government grants, they are autonomous institutions.

C. Distance Education and Status of Broadcasting, Printing, Postal Services in the Country

8. Distance Education Institutes.

9. Radio Facilities (Production and Broadcasting Facilities for Education Programs). There are two radio stations in HK - a government station and a private commercial station. They together operate ten radio channels.

10. Radio Facilities (Production and Broadcasting Facilities for Educational Programs). The Government radio station provides education television service to all Primary 3 to Form 3 students.

* The medical colleges are faculties of the two universities and their enrollments are included in Section 4.

- | | |
|------------------------|---|
| - Total Capacity | 864 programs in 6 academic subjects |
| - Level of Utilization | for about 600,000 students in 1,100 schools |
| - Scope for Expansion | extension of service planned for Primary 1-2 and Forms 4-6 students and to increase the range of subjects covered |

11. *Number and Percentage of Electrified Villages*

12. *Status of Printing Facilities in the Country.* Printing facilities are freely available in HK. There are over 3,100 printing factories.

13. *Postal Services in the Country.* There are over 100 post offices in HK, handling daily a total of some 1.55 million letters and parcels. A speedpost service is available to over 360 cities over the world. The Intelpost service providing high speed facsimile transmission is also available to 34 designations.

D. *Manpower Requirements of the Country as Projected in Development Plans*

Distance Education in Japan

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN JAPAN

A. Concepts and Their Institutionalization

Distance education developed in Japan with a view to providing access to education for those who cannot afford it in terms of the traditional mode of schooling. The media of instruction employed in distance education include printed materials, broadcasting, face-to-face instruction and a mixture of these media as per the regulations and the operational policies of the specific institution involved. There are formal distance education institutions which offer high school diplomas and college degrees as well as non-formal educational courses for training in various vocational skills. College correspondence courses, the University of the Air, and high school correspondence courses shall be dealt with in this section.

The further expansion of distance education in Japan is relative to the possibility of how much it can serve the education needs of its people. The strategies used to make full use of modern technology in distance education ought to be considered with a view to meeting the students' needs. Discussion of this subject is based upon reflection on both the positive and negative experiences of the University of the Air.

There are no distance education institutions at the elementary and junior high school levels because nine years of compulsory education covers 100 per cent of the age group. Nonetheless, a number of non-government agencies and institutions participate in spheres of distance education such as the enrichment of school education by TV programs, implementation of social education at a distance, and the combination of broadcasting with social education. These subjects will be discussed in the section on participation by non-government agencies.

The impact of the media on the improvement of college teaching and their use for the expansion of the outreach of the college into society have been policy issues for the past decade. In this regard, experimental programs have been undertaken by a dozen colleges and local broadcasting stations with government sponsorship. This issue shall be discussed in the section on governmental policies regarding distance education.

B. College Correspondence Courses

1. History

The origin of college correspondence courses dates back to the 1880s when several private colleges issued printed copies of lecture notes and made them available through sales outside their campuses. These developed into a series of lectures open to the public.

After the end of World War II, democratization was the key for reconstruction of the nation. Equal access to education was strongly promoted as the primary theme of postwar educational reform. Hardship in maintaining a livelihood, shortage of campus facilities in the defeated nation, and widespread desire to learn among aspiring yet poverty-stricken youth gave great impetus to providing non-traditional opportunities for education. Thus, in 1947 the Government decided to incorporate correspondence education into the school education system by introducing into the Basic Education Law and the School Education Law provisions for the establishment of correspondence education.

College correspondence courses were intended to provide access to college education to working youth who could not afford to attend traditional college on a full-time basis. College correspondence courses were established as degree courses by traditional colleges as affiliate operations. Due partly to financial and partly to academic considerations, they share the facilities and academic personnel of the daytime college so that operational costs have been minimal.

The academic curricula of correspondence courses are practically the same as those for traditional colleges, as Correspondence College Course Standards have been set by the Government almost identical with College Course Standards. The Government has given support to college correspondence courses in the form of: (i) making a special postage rate for correspondence education mailings; (ii) giving their students reduced railway fares; (iii) reduction of income taxes for working students; (iv) access to the national scholarship system; (v) conveniences for those who attend schooling; and (vi) institutional aid.

College correspondence courses have been established as degree courses and the credits earned by correspondence are interchangeable with those earned at traditional campuses. One-fourth of the credits, however, must be earned through face-to-face instruction on campus.

During the initial period, a majority of the students were either veterans from World War II or youth from rural areas. With the enactment of the Teacher Certification Law in 1952, college correspondence courses established teacher training courses to meet with the then current needs. Indeed, college correspondence courses have played an

important role in the improvement of teacher credentials.

Teacher training courses at the outset weighed more heavily on the training of senior and junior high school teachers. Then, the weight shifted to elementary and kindergarten teachers, while in the 1970s, with the decline of the need for teachers, teacher certification courses ceased growing. With the growth of the national economy, the number of students who were salaried workers in industries and businesses, civil servants and housewives increased and the participation of those who had had higher education increased steadily.

College correspondence courses have been changing with the changes of society. The careers of the graduates include the legal profession, certified accountants, senior public officials as well as students continuing their studies at graduate schools.

An association of college correspondence course operators was established in 1949 and was reorganized in 1972 to include both four-year colleges and two-year colleges.

2. Current Status

The objectives of college correspondence courses are identical with those of regular colleges. The only difference lies in the method of instruction. Categories of college correspondence courses include the following:

- (i) *Degree course*: A high school diploma or a certificate of college entrance qualification is required to register in this course, and a minimum registration of four years is required before receiving a bachelor's degree and two or three years before graduating from a junior college.
- (ii) *Provisional entry system*: In order to provide access to those not qualified to enter colleges, college correspondence courses admit non-qualified students on a provisional basis and approve their transfer to the degree course when they have met college entrance requirements.
- (iii) *Piecework study system*: Any subject of the student's choice may be registered for but college credits are not given. There are no entrance requirements.
- (iv) *Audit system for teacher training*: Those who wish to obtain a teacher certificate may audit those courses which are required by law to obtain a teacher certificate.
- (v) *Graduate course*: A bachelor's degree is required to register for this course and students pursue the study of specialized disciplines through the correspondence instruction.

3. Courses Offered

According to a 1984 survey conducted by the Ministry of Education, Science and Culture, 12 out of 460 four-year colleges and universities and 10 out of 520 two or three-year junior colleges across the nation offer correspondence courses.

In these colleges and universities, the following courses are being offered:

- (i) *Humanities* – Literature, Philosophy, Buddhism, History, Geography, Education
- (ii) *Social Sciences* – Law, Political Science, Economics, Business Administration, Productivity, Sociology, Social Welfare, Publicity
- (iii) *Home Economics* – Child Care, Food Science, Living Arts, Home Economics
- (iv) *Nursery Schooling* – Nursery Schooling
- (v) *Medical Assistance* – Medical Secretary
- (vi) *Arts* – Arts, Design

4. Teacher Certification

Practically all colleges and universities as well as junior colleges offer the courses which are required for obtaining a teaching certificate.

5. Student Profile

According to a 1984 survey conducted by the Ministry of Education, Science and Culture, the number of students registered in college correspondence courses, with women students indicated in parentheses, were as follows:

Four-year colleges and universities	95,786 (41,547)
Junior colleges	<u>65,029 (35,415)</u>
Total	<u><u>160,815 (76,962)</u></u>

Per Cent of Degree Students According to Subjects

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
Humanities	24.4	(13.3)	0.5	(0.4)
Social Sciences	38.4	(9.3)	55.9	(19.4)
Home Economics	5.1	(5.1)	3.4	(3.4)
Education	32.1	(15.6)	27.4	(26.7)
Nursery Schooling			0.5	(0.4)
Arts			12.4	(8.3)
Total	100.0	(43.3)	100.0	(58.6)

Breakdown of Students by Age Groups

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
18-22 years old	20.2	(8.3)	42.2	(25.6)
23-29	43.4	(18.4)	21.7	(13.1)
30-39	24.8	(11.4)	23.1	(13.6)
40-49	8.4	(4.3)	9.9	(5.5)
50-59	2.6	(0.9)	2.6	(0.9)
60-Over	0.7	(0.1)	0.5	(0.0)
Total	100.0	(43.4)	100.0	(58.6)

Breakdown of Students by Employment

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
Civil Service	16.6	(5.1)	8.7	(4.0)
Teachers	16.8	(7.8)	5.3	(4.6)
Salaried Men	21.6	(8.0)	32.0	(24.5)
Self-employed	4.2	(1.2)	4.0	(1.6)
Unemployed	27.9	(14.2)	39.6	(24.5)
Others	13.0	(7.1)	10.3	(7.6)
Total	100.0	(43.4)	100.0	(58.6)

Breakdown of Students by Educational Background

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
High School Graduates	40.3	(16.3)	83.6	(45.7)
Junior College Graduates	15.6	(11.2)	7.4	(5.4)
Four-year College Graduates	42.3	(15.0)	6.7	(1.1)
Others	1.7	(0.5)	2.3	(1.1)
Total	100.0	(43.0)	100.0	(55.0)

Breakdown by Motivation for Enrollment

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
Degree	20.4	(8.7)	39.7	(16.8)
Professional Certificate	46.4	(23.3)	37.3	(29.7)
Self-enrichment	22.3	(12.0)	16.0	(11.2)
Unspecified	2.2	(2.4)	2.1	(1.2)
Others	8.7	(2.4)	4.8	(4.1)
Total	100.0	(47.2)	100.0	(63.1)

Teaching Staff

	Four-Year Colleges & Universities	(%)	Junior Colleges	(%)
Full-time Teachers	23	(1)	11	(0)
Part-time Teachers	2,391	(354)	623	(143)
Total	2,414	(355)	634	(143)

6. Production and Delivery Systems

Instructional materials in printed form, particularly textbooks, are developed specifically for use in college correspondence courses. Since 1981, academic publications made available on the market may also be designated as textbooks of the college correspondence courses. Nonetheless, each college devotes much effort in the development of its own textbooks, including as many individual characteristics as possible.

In principle, the textbooks for college correspondence courses are written by the teacher in charge of the subjects but in recent years, joint authorship is on the increase. The minimum number of pages for one credit is regulated by College Correspondence Course Standards to be

no less than 100. In addition, specific guidelines for the authors of textbooks are fixed by each college.

Worthy of special note is the development of textbooks for common use by plural institutions under the auspices of the Correspondence Colleges and Universities Association. The project was started in 1974 with a subsidy from the Ministry of Education, Science and Culture. College correspondence course textbooks in the various subjects in general education, foreign languages including English, German and French, and physical education have been developed through the joint efforts of professors from various universities. The adoption of these textbooks as course materials is left to the discretion of the member colleges, and instruction and assessment are the responsibilities of the respective colleges even if a faculty member should be among the authors of such a textbook. Continuous efforts for the revision of these textbooks are ongoing with the assistance of the National Institute of Multimedia Education.

Instructional media used in college correspondence courses include the following:

Instructional materials in printed form consist of textbooks and supplementary materials. Textbooks in college correspondence courses are equivalent to classroom lectures in regular colleges and are central among instructional materials. They are accompanied by study guides which facilitate the students' learning process.

Supplementary materials include college papers which furnish communications from the college and help promote communication among students; cultural magazines which encourage students to broaden cultural interests; and other pamphlets relating to instructional processes.

Writing and submitting written reports on designated topics are mandatory requirements in all college correspondence courses. Reports are corrected, marked and returned to students. Each subject carries either two or four credits and one report is to be submitted for each credit. Usually expository writing is required in the presentation of these reports, and each report is expected to be about 2,000 words.

One-fourth of the credits required for graduation, that is to say, 30 credits in case of four-year college and university, is to be earned by attendance at face-to-face type instruction provided at college campus. Experiments, practicum, seminars and advanced lectures in the students' major discipline are given as courses requiring face-to-face instruction. The formation of character and the sharing of college atmosphere are also expected to be obtained through campus life.

Face-to-face instruction is offered in three alternative modes: summer school, evening school and year-long school. Summer school sessions are intensive eight-credit courses lasting for three weeks and

colleges and universities offer one or two of such sessions at their discretion. Evening school sessions of ten weeks also grant eight credits per annum. Yearlong school permits the earning of up to 30 credits by attendance at classes on campus like daytime students during the last year of study. The facilities and faculties of traditional campuses are utilized in offering face-to-face instruction, but in recent years, some colleges and universities have begun to offer some schooling opportunities locally by sending out instructors and holding intensive sessions. In addition, some colleges have started weekend sessions to facilitate student participation in school. Whichever mode a student may choose, the earning of 30 credits of face-to-face instruction is mandatory for earning a bachelor's degree, in addition to accumulating a total of 124 credits. The required number of credits for graduation from a junior college is one-half of that needed to graduate from a four-year college or university.

Two universities are broadcasting radio programs on purchased time from a commercial station. For a brief period radio and television programs were broadcast in collaboration with NHK, but has been stopped due to the difficulties of programming. Since 1976, the College Correspondence Courses Association has produced and broadcast courses via Japan Shortwave Radio Station by purchasing time with a subsidy from the Ministry of Education, Science and Culture. This project is in operation today with the assistance from the National Institute of Multimedia Education.

The development of audiocassette courses and videocassette courses is being attempted but not yet widely used for practical purposes because of financial reasons.

Computers are widely used in the administration of college correspondence courses but their use for instructional purposes is yet to be seen.

Group instruction and individual instruction are frequently practiced. In addition to the provision of printed materials, telephone and letter service as well as counselling are offered to correspondence course students. Furthermore, academics as well as administrative staff members are often sent out to remote areas to provide direct instruction. Many colleges and universities make arrangements to place local instructors and to assign a number of graduates from college correspondence courses as advisers to students.

Students of college correspondence courses scattered all over the country have organized study groups and cooperate among themselves to keep up with their studies by encouraging each other. Social events are also sponsored by these groups. Colleges and universities extend assistance to these groups by sending instructors to them upon request.

7. Organization and Management

The college correspondence courses of private colleges and universities are based on the faculties of the respective institutions so that educational responsibilities relative to correspondence courses lie in the faculties that offer such courses.

Departments of Correspondence Courses are organized by drawing from the respective faculties those faculty members who have joint assignments. The department head is equivalent to the dean of a regular faculty. The department has an office of administrative staff affiliated with but keeping some independence from the administration of the college, office of counsellors, office of students, etc.

The majority of the members of the academic staff are also members of the traditional college faculty, although in some colleges and universities, a few full-time faculty members are appointed to be in charge of correspondence courses. In the Department of Correspondence Courses, there is an Academic Committee composed of academics with joint appointments in correspondence and regular campus courses. The committee deliberates and decides policy relative to correspondence course but final decisions relating to academic affairs are to be endorsed by the regular faculty.

Substantial efforts for cooperation among colleges and universities engaged in college correspondence courses have been made. As mentioned earlier, under the initiative of the College Correspondence Courses Association, textbooks for joint use have been developed, experimental radio and television programming has been done and cooperative research in the educational technology of distance education has been promoted. The results of the research are communicated to member institutions and recommendations are often adopted by them at their own discretion.

Cooperation with local public agencies is another area of recent development. Though yet insufficient, some instances of offers of the use of local public facilities for local schooling and local examinations have materialized.

8. Finance

Figures relative to the financial status of college correspondence courses in fiscal year 1983 are given below:

The financial characteristics of college correspondence courses derive from their heavy reliance on existing campus colleges/universities. As the instructional staff receive the main portion of their salaries from the campus colleges/universities, the amount paid them

An Average Scale of Correspondence Department

	Four-Year Colleges & Universities	Junior Colleges
Number of Students	8,378	7,804
Number of Teachers		
- Full-time	2	1
- Part-time	202	55
Size of Administrative Staff	26	14

Average Tuition Fees

	Four-Year Colleges & Universities (¥)	Junior Colleges (¥)
Registration fee	18,414	20,444
Annual tuition fee	45,683	71,733
Schooling fee (Summer session)	26,455	28,688
Annual current expenses per institution	678,200,000	373,370,000

**Composition of Average Income and Expenses
(Per Cent)**

Income:	From students	70.5
	From subsidies	11.1
	From other sources	18.0
Expenses:	For personnel	47.0
	For instruction	33.5
	For administration	10.2
	Miscellaneous	0.3

covers in most part the remuneration for extra services rendered. Indeed, only 23.6 per cent of personnel costs are paid to the academics. In addition, facilities for schooling are used free of charge; thanks to the cooperation of traditional campus college. Should Correspondence Departments bear the full cost for faculties and facilities, the financial burden on the student would be raised remarkably.

9. Self-Assessment and Prospects

A survey of student evaluation of correspondence courses was conducted in 1983. Students registered in correspondence courses in member institutions of the College Correspondence Courses Association were asked the following questions. The responses are shown below and they indicate the role these courses are playing in society.

	Four-Year Colleges & Universities (%)	Junior Colleges (%)
Correspondence courses are open to society	75.6	65.8
Campus colleges are open to society	55.5	57.8
Correspondence courses serve lifelong learning	97.4	83.0
Social reputation of correspondence course is not high	62.7	63.1
Will continue to use correspondence course in learning	93.2	88.4

Among the merits of correspondence courses are the following:

Can link study with work	45.3	43.5
Can study anytime	41.7	40.7
Anyone can study	38.4	41.4
Inexpensive	22.6	18.0
Can study at any place	20.5	20.7

Among the major issues facing college correspondence courses today, the changing roles, the interchange with traditional higher education and the development of effective instructional methodology are of particular importance. When college correspondence courses were started in 1947, a majority of the students were keenly in need of earning a bachelor's degree in order to overcome their disadvantages. Today, the need for correspondence education has shifted toward lifelong learning in pursuit of professional skills and certificates as well as to self-enrichment in the liberal arts in order to enjoy a more cultural life. The demand is made of Correspondence Departments to meet these new needs by reviewing the contents of course offered.

Colleges and universities ought to be open to society. The transfer of credits earned through correspondence and on-campus has already

been adopted within certain institutions, but further efforts need to be devoted to open different institutions. Learning experiences in corporate classrooms and academic institutions ought to be probed. International cooperation and exchange schemes ought to be sought after.

The development of effective instructional technology in distance education is keenly needed. Openness, distance learning and the use of available media in effective mixtures are primary concerns for the improvement of college correspondence courses. Among the strategies which may be recommended are: improvement of texts in consideration of individual learning; cooperation of colleges and universities for the larger investment in the adoption of new media requires flexibility of curricula to overcome the rigidity of the traditional campus curricula; reassessment of instructional methodology and assessment techniques; the establishment of graduate courses in view of the involvement of highly educated persons in distance education; cooperation among institutions toward easier cumulation of learning experiences at various institutions for the benefit of students; and cooperation with local public bodies in increasing the opportunities of learning experiences in local sites readily come to mind.

C. University of the Air

The major theme behind the establishment of the University of the Air was threefold: increasing demands for higher educational opportunities, opportunity to return to school and improvement of higher education.

First, using the medium of broadcasting for educational purposes means that the opportunity for higher education can be extended to many people. Accompanied by advances in economic development in Japan, the 1960s onward saw an unusual increase in the number of people wanting to enter institutions of higher education. Facilities of higher education, including universities, were enlarged for this purpose but a university that makes use of broadcasting is the most effective answer to this demand.

Second, with the development of the technological society, the average person in society needs to learn more of the specialized knowledge of the new age. It is difficult for adults who must perform both social and professional obligations to receive a college education because of problems caused by time limitations. Education via radio and television can remove this obstacle and offer people the opportunity to study once again. A broadcast university also provides the opportunity

for higher education to those who have had to abandon going to university for geographical or economic reasons.

Third, in Japan, the traditional structure of higher education has been for individual faculty members to lecture to students on the basis of the results of their own research and there is reciprocity and mutual cooperation both among members of a specific faculty and between universities. Because of this, through the cooperation of many public and private universities, it has been possible for the University of the Air to produce broadcast materials (contents of lectures), and printed materials (textbooks) on the basis of results of the latest research and the most recent educational technology. It is expected that this will bring about the opportunity for improvement in both content and methodology in education.

Also, if the transfer of credits with other universities can be realized, it is expected that it will propel Japan's system of higher education towards becoming more flexible.

The University of the Air opened its doors in April 1985 with the following aims:

- (i) To provide working people and housewives with the chance of lifelong university level education;
- (ii) To provide an innovative and flexible system of university level education which is open to all high school graduates; and
- (iii) To cooperate with other universities in making full use of the latest knowledge and newest educational technology in offering a system of higher education which meets contemporary needs.

In doing this, the University aims to contribute to further improving the university level educational system in Japan by strengthening cooperation with existing universities, promoting transfer of credits, deepening relations with other universities, encouraging faculty exchange, disseminating broadcast materials, etc.

The University of the Air, in response to the diversified demands of the Japanese, and in order to widen areas of study which relate to real life, established a Faculty of Liberal Arts which includes three courses of study which have not heretofore been included in existing fields of academic study. Each course of study is divided into two areas of specialization, one of which the student must select for more concentrated study in a systematic way.

Course of Study		Major	Educational Objectives
	Science in Everyday Life	Living and Welfare	A study of the knowledge necessary for a healthy and rewarding family life
		Human Development and Education	A study of the basics of child-rearing and counselling for adolescents. This course also aims to provide an understanding of the role of education.
	Industrial and Social Studies	Social and Economic Studies	A study of political, economic and social systems and their related problems.
		Industry and Technology	A general survey of trends in the development of industrial technology and in management techniques.
	Humanities and Natural Sciences	Humanities	A survey of the characteristics of the development of both modern civilization and regional cultures. This course also aims at fostering an understanding of trends in thought, literature and art.
		Understanding Nature	A study aimed at building an awareness of natural realities and of mankind's dependence on nature, through consideration of the characteristics of nature from various points of view.

The University offers a total of 270 courses (786 credits). Of these, 105 (279 credits) are currently being broadcast with the rest planned for completion by 1988.

The courses have been divided into the following categories: Fundamental Subjects (study of which is intended to give students an overall view of their chosen area of study and to teach them how to recognize and look for solutions to academic problems); Basic Subjects (study of which should provide students with necessary knowledge and study skills to enable them to go into their chosen area of study in greater depth); Foreign Language Courses; Health Education Courses; Specialized Subjects; and Interdisciplinary Subjects. Of these, 40 courses will be accompanied by schooling at the Study Centers. The number of courses in each area is as follows:

Category	Planned No. of Courses (& Credits)	No. of Courses at Present (& Credits)
Fundamental Subjects	17 (35)	10 (21)
Basic Subjects	34 (104)	19 (55)
Foreign Languages	15 (48)	8 (26)
Health Education	2 (4)	2 (4)
Specialized Subjects		
Living & Welfare	26 (80)	9 (26)
Human Development & Education	32 (90)	11 (28)
Social & Economic Studies	32 (92)	13 (29)
Industry & Technology	32 (81)	11 (25)
Humanities	41 (104)	14 (28)
Understanding Nature	28 (93)	9 (27)
Interdisciplinary Subjects	11 (55)	- -
Total	270 (786)	105 (279)

The students of the University of the Air are classified into four categories. They are: (i) regular students who enroll with the intention of graduating from the University of the Air; (ii) non-degree students who enroll for one year and take three or more courses in a particular area; (iii) non-degree students who enroll for one semester for a particular course; and (iv) special students who enroll on provisional basis without having the necessary qualifications to enter the University and, after finishing 16 credits for the course selected from among the Basic and Fundamental Subjects, may transfer as regular students. (In Japan, those who have not at least graduated from senior high school are not able to enter a college or university.)

Enrollment statistics and student profiles in terms of distribution by age, occupational distribution, educational background and majors of regular students are given below:

Enrollment Statistics (April 1985)

Type of Student	Enrollment Quota	Actual Enrollment	
Regular Student	7,000		8,157
Non-Degree Student ^a		5,891	
Non-Degree Student ^b	10,000	1,768	
Special Student		1,222	8,881
Total	17,000		17,038

^a Enrolled for one year

^b Enrolled for one semester

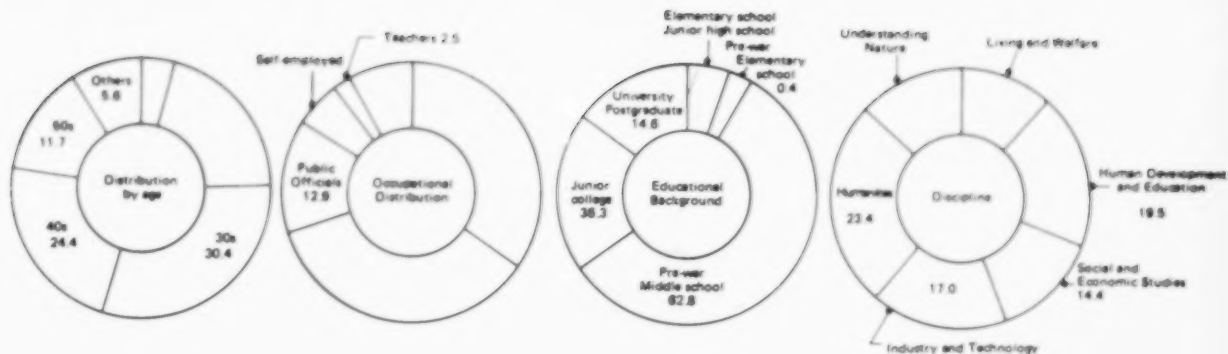
The system of study at the University of the Air comprises lectures broadcast over radio or television, textbooks, guidance by correspondence and, in some cases, face-to-face instruction at Study Centers.

During the 15 weeks of each semester, two credit courses broadcast 15 lectures (once a week, 45 minutes each), and four credit courses broadcast 30 lectures (twice a week, 45 minutes each). Each course is broadcast on either radio or television. The lectures are rebroadcast, but in cases where a lecture is missed, students may go to the Study Centers to watch and/or listen to the lecture in the tape library.

The academic content of the broadcast lectures is the responsibility of the professors in charge, but their production is carried out under the leadership of program directors who are on the staff of either the University of the Air or the National Institute of Multimedia Education. Though some programs are shot on site, at laboratories or at other locations, program production is mostly done at the studios of the National Institute of Multimedia Education located on the same campus. The University of the Air Foundation is granted UHF Channel 16 and FM 71.1, has its own broadcasting station and airs the broadcast lectures from 6 a.m. to 12 midnight every day throughout the year.

All courses broadcast are accompanied by textbooks, and the lectures and textbooks should be studied together. A textbook for a two-credit course is about 100 pages long.

STUDENT PROFILES



(REGULAR STUDENTS)

The responsibility of writing textbooks is assumed by the professors in charge and printing and delivery are handled by the University of the Air Promotion Foundation.

After the eighth week of the semester, students are tested or asked to submit papers and are evaluated on the basis of the results. Marking is the responsibility of the professor in-charge and mailing is handled by the staff of the University of the Air.

Classroom instruction is carried out at Study Centers. In order to graduate, regular students must complete at least 20 credits of Study Center classes. Each class lasts for two hours and 15 minutes and students receive one credit by attending five classes for one course during a semester.

Evaluation of students is done course-by-course on the basis of guidance by correspondence and examinations which are the basis of credit. Course examinations are given at each of the Study Centers at the end of the semester. Those who have passed the Guidance Correspondence are permitted to take an examination to determine if they have to receive credit for the course. Students are evaluated by the professor in charge of the subject and, if they receive a sufficiently high grade, they pass. Credit is then given for the subject.

The University of the Air was established by the University of the Air Foundation, which is a semi-governmental special corporation established by an enactment of the Diet. The Government supervises the affairs of the University of the Air Foundation and of the University which it established. This includes supervision or the approval of the content of the broadcasts and of financial affairs and accounts. However, the Government does not directly supervise the University of the Air itself.

Every year the University of the Air Foundation presents its plans of operations and budget to the Ministry of Education, Science and Culture and the Ministry of Posts and Communications in order to receive their approval. It must also receive their approval for settlement of any questions involved.

The Minister of Education, Science and Culture appoints the Chairman of the Board of Directors of the University of the Air Foundation. The Chairman of the Board of Directors appoints the other Directors, with the approval of the Minister of Education, Science and Culture. The appointment of the President of the University of the Air is made by the Minister of Education, Science and Culture upon the nomination of the Directors as based upon the decision of the Faculty Council. The President of the University of the Air becomes a Director of the University of the Air Foundation.

The University of the Air has a President, two Vice Presidents, 28 professors, 23 associate professors and about 450 visiting professors, visiting associate professors and part-time lecturers. In addition, there are six Study Centers which have been set up for schooling, academic counselling, library use and examinations, and these centers also have educational personnel.

At the level of university operations, there are a faculty assembly and a faculty council, which discuss research and personnel matters. In addition there are within the University an Educational Affairs Committee, Study Center Committee, Student Affairs Committee, Library Committee, Curriculum Committee and committees in each academic discipline.

To manage the administrative affairs of both the University of the Air and the University of the Air Foundation, a secretariat was established. It includes the Director-General of the Secretariat, a General Affairs Department, an Academic Department, a Broadcast Department and a Production Department.

The University of the Air Foundation established the University of the Air, including the Study Centers, and the television and radio broadcasting station. The majority of the funding for operations is supplied from the treasury of the Japanese Government.

Estimated income is based on governmental subsidies, capital from the national treasury, student enrollment and registration fees (business income), and from donations to the Endowment for the Promotion of Higher Education and profits on investments made by the University of the Air Foundation (external income).

Estimated expenditures are based upon salaries for employees, running operations for the University of the Air Foundation, including the University of the Air and the broadcasting station expenses for building maintenance, student recruitment, the preparation of textbooks and broadcast lectures for faculty research, for academic counselling, for university equipment, for operating expenses of transmission stations, for student support at Study Centers and for study center building maintenance.

The University of the Air works in cooperation with both public and private universities. The full-time faculty, with the assistance of visiting professors and associate professors, and of part-time instructors, produces broadcast materials and textbooks and carries out schooling.

Registration of students began in April 1985, so it is difficult to measure the impact on the educational system at this time. However, it is believed that the University of the Air will certainly have great

influence on the improvement of education, especially higher education in Japan. Specific areas where influence is expected include mutual transfer of credits, promotion of mutual cooperation, the open nature of lectures, as with those broadcast over the University of the Air, integration of academic disciplines, influence towards the improvement of the content of lectures at other universities and influence promoting flexibility within the system of higher education itself.

High School Correspondence Courses

The high school system in Japan has two tiers: junior high and senior high. Three-year junior high schools are part of the compulsory education which follows six years of elementary school education. Practically 100 per cent of students graduate from junior high school. Three-year senior high schools, hereafter referred to simply as high schools, are optional and yet about 94 per cent of graduates from compulsory education proceed to high school.

Correspondence high schools constitute one of the three formal courses of high school education. The first course is the full-time course, in which about five million students or nearly 90 per cent of junior high graduates study; the second is the part-time or evening course, in which about 140,000 or 2.6 per cent of junior high graduates study; the third is the correspondence course, in which 130,000 students (2.5 per cent of all junior high graduates) study.

The high school correspondence course was begun in 1948 with the objective of opening high school education to the general public. The only subject offered in the first year was the Japanese language, and this course was attached to one or two leading high schools in each prefecture. In 1950, the number of subjects expanded and it was decided that up to 25 out of the 80 units required for graduation from high school might be taken by correspondence, and that those who earned credits by correspondence might transfer to the part-time or evening course in order to graduate, thus combining credits from the two courses.

In 1955, the range of subjects offered in correspondence course was increased to full scale, and from that year on, the correspondence course became entitled to issue an independent certificate of graduation.

Furthermore, in 1961, three major developments took place: (i) legislation was enacted for the establishment of high schools offering only correspondence course; (ii) establishment of high schools offering

high school correspondence courses on either a regional or a national basis was permitted; and (iii) transfer of experience at qualified corporate training institutes to high school correspondence course units was permitted so that corporate training and high school education might function cooperatively.

In 1962, the Broadcast and Correspondence High School was established by NHK to serve the entire country. The school has an enrollment of 7,100 as of 1986. In 1963, the requirement of face-to-face instruction was lifted in cases where continuous viewing of television high school programs had been certified. Also established in 1963 was a public system of distributing textbooks and study guides to high school correspondence course students free of charge.

The number of high school students studying in correspondence courses hit the peak of 164,000 in 1972, but in ten years it had declined to 124,000.

As of 1986, there are 84 high schools offering correspondence courses and 130,035 students are enrolled in them. There are various types of students enrolled in correspondence courses.

The first type is an ordinary student who enrolls as the result of a personal decision and who pursues a full course of studies and aspires to graduate. The second type is a student who enrolls in one or just a few subjects of his choice without the intention to graduate. A student of this type is called a subject student.

The third type is called a group student. These students are not found either in full-time or in part-time courses. This is because students of this type are part of a group in a corporate training institute or a private vocational school and are sent as a group to a high school correspondence course by the parent institute or school. The fourth and fifth types of students are joint corporate students and joint private vocational school students. The former student is a trainee in a qualified corporate training institute whose professional training in the institute is acknowledged as being able to fulfill part of the requirements for graduation. The latter is a student at a qualified private vocational school whose credits earned at the school are counted twice by the high school as part of the required 80 units for high school graduation.

The sixth type of student is called a twin-course student, because he is a student at a part-time high school who has enrolled in a few subjects at a correspondence high school in order to speed up graduation by combining his studies in the two high school courses. Figures of these types of students in 1986 are given below:

University of the Air
Budget for 1985 (in Yen thousand)

Income		Expenditures	
Income		Salaries	1,459,983
Tuition and Fees	749,000	Administrative Expenses	1,258,094
Other Income		University of the Air	
Donations for the promotion of University	127,849	Operating Expenses	2,712,673
Broadcast Education	103,500	Student Recruitment	149,254
Miscellaneous Income	24,349	Preparation of Materials	1,488,156
Subsidy		Educational Research	621,864
National Subsidy	5,144,825	Installation	453,399
Government Capital		Transmission Stations	380,660
Government Capital	313,235	University of the Air Foundation	313,235
		Equipment	
		Donation for the Promotion of University Broadcast Education	100,000
		Reserve Funds	110,264
Total	6,334,909	Total	6,334,909

Students Enrolled in Correspondence Courses

Type of Student	Male	Female	Total
Ordinary	37,103	41,214	78,317
Subject	2,027	3,340	5,367
Group	2,590	9,330	11,920
Joint corporate	5,591	696	6,287
Joint vocational	9,904	16,186	26,090
Twin-course	516	1,538	2,054
Total	57,731	72,304	130,035

The profiles of ordinary students who enrolled in April 1986 in high school correspondence courses reveal that they vary widely in age, that nearly half are adults, and that a great majority of them are working. The age distribution and breakdown by profession are given on the next page:

**Age Distribution
(Per Cent)**

Age	Male	Female	Total
15-19	26.2	29.1	55.3
20-24	5.4	3.5	8.9
25-29	2.5	1.7	4.1
30-39	5.9	11.1	17.1
40-49	3.3	7.9	11.2
50-	1.5	1.9	3.4
Total	44.8	55.2	100.0
Average Age	23.6	27.6	25.8

**Professional Profile
(Per Cent)**

Type of Work	Male	Female	Total
Agriculture/Fishery	0.8	0.3	1.1
Civil Service	2.1	1.3	3.4
Corporate employee	14.6	7.2	21.8
Nurse	0.2	8.0	8.2
Barber/Beautician	0.5	1.8	2.3
Sales/Service	5.3	4.8	10.1
Self-employed	2.3	1.5	3.8
Housewife	-	8.2	8.2
Vocational school student	2.3	8.1	10.4
Others	16.1	14.6	30.7
Total	44.2	55.8	100.0

The main instructional materials used by high school correspondence courses consist of textbooks, study guides, broadcast programs and supplementary materials. An outline of the production and delivery of these materials is given on the next page.

The textbooks used by high school correspondence courses are the same ones used in full-time courses. They are authored by experts in the area in accordance with the High School Educational Standards, are reviewed by the Ministry of Education, Science and Culture and are published by textbook publishers. Each school examines sample copies for each subject and makes recommendations to the National Association of High School Correspondence Education Studies (referred to hereafter as Zentsuken) which has an institutional membership of 74 high schools. Zentsuken announces the adoption of one textbook for one subject on the basis of recommendations from the majority. That is to say, a single textbook in each subject is used in most of the high school correspondence courses. Zentsuken, however, goes over the reviewing process whenever the standards are amended.

Study guides are produced under the auspices of Zentsuken. The writers of the study guides are the authors of the textbooks and the teachers of high school correspondence courses.

Assignment questions are produced, in principle, by the teachers in each school. In some regions, however, regional associations of high school correspondence courses take the initiative in making common tests. Standard questions are also provided in the study guides.

Textbooks and study guides are delivered free of charge to the students. The cost for doing this is borne by the national and prefectural governments in the case of public schools, and by the national government and the founder of the school in the case of private schools.

High school broadcast programs are based upon the content of the textbooks adopted by Zentsuken. The programs have been produced and broadcast by NHK (Japan Broadcasting Corporation) since 1951 via radio and since 1959 via television, and many schools encourage students to avail themselves of these programs in pursuing their studies. The Ministry of Education, Science and Culture has approved the waiver of the six-tenths schooling requirement in cases of continuous viewing/listening of the programs of the subject involved.

Each school produces supplementary instructional materials which are supposed to support the students in their study of the textbooks, study guides and broadcast programs. These supplementary instructional materials are indispensable to students in writing reports and preparing for examinations.

Organizationally, there are differences between high school correspondence courses offered by public high schools and those offered by private high schools. Public high schools are under the jurisdiction of prefectural Education Committees and private high schools are managed by the respective school judicial persons.

There are also differences between high school correspondence courses affiliated with full-time courses and those independently operated.

Among the public high schools offering correspondence courses of study, 31 schools are independent from full-time institutions, and five offer correspondence courses only and 36 correspondence courses are affiliated with full-time high schools.

In case of private schools, a distinction is made between narrower territory and wider territory institutions. The former offers services for less than two prefectures, while the latter for more than three prefectures. There are four narrower territory institutions and five wider territory institutions, among which only one institution, NHK's Broadcasting and Correspondence High School, has nationwide territory.

High school correspondence courses at public institutions are financed by prefectural governments with basically the same policy applied to full-time high schools. The salaries of teachers at public institutions are the same as those of full-time public high school teachers, but a 10 per cent increment is added on the basis of the Law to Promote Part-Time and Correspondence Courses in High Schools.

Private institutions are financed by tuition fees from students and subsidies from the national and prefectural governments.

The constituent student body of high school correspondence courses has changed substantially from the time the system was started. When it was started in 1948, it was aimed at opening up access to high school education of working youth. Today, however, more adults than working youth, and more housewives than women at work tend to make use of these courses. Moreover, the increase of those who have attended full-time courses, quit and transferred into correspondence courses is remarkable. The objective of the majority enrolling is to earn a certificate of graduation and then, to nourish the level of education provided by high schools. The academic abilities and levels of motivation of the students, however, are quite diversified and the dropout rate is becoming higher with only about 20 per cent graduating. The diversification of the student body has thus caused difficulties in setting standards for student guidance.

Legal provisions to permit students of private vocational schools and corporate training institutes to register simultaneously are unique to correspondence courses. These students can graduate from high school within a relatively short time while being trained in professional skills. This is a strong point of high school correspondence courses and can be extensively utilized by the working youth.

High school correspondence courses serve those students who missed the opportunity to receive high school education for financial, academic and other reasons. They also provide educational services to a wide variety of students in terms of age, academic ability, academic background and so on. Furthermore, they meet the diversified objectives of students. These characteristics indicate that high school correspondence courses are reflective of an ideal of what an educational institution might be in a learning society. In order to activate correspondence courses, it is imperative to make the system more flexible and to encourage free interchange among the three courses of high school education.

SCOPE FOR FURTHER EXPANSION OF DISTANCE EDUCATION

The scope of distance education needs to change. It will not remain a mere second chance for those who missed educational opportunity. Its main issue will not be mere expansion of equality for educational opportunity. It will not merely be a cheap alternative for traditional education. It will not confine the mission of education to the transmission of established knowledge to the young in society.

It shall serve everybody whether at work or at home, or whether one missed an educational opportunity or had received good education while younger. It shall pursue excellence. It shall bring forth a new dimension of education. It shall help develop a learning society where people keep studying and seek intellectual growth irrespective of age.

The preceding chapter discussed college correspondence courses, the University of the Air, and high school correspondence courses to represent major distance education practiced in Japan. The first and the second are at the higher education level and the third at the secondary education level, while the primary medium of instruction at the first and the third instances is correspondence and that of the second, broadcasting. In terms of the main source of funding, the first is private and heavily relies on human and capital resources of private educational institutions; the second and the third are public and keep relative independence from traditional practices.

Despite these differences, however, all of them face common issues in looking ahead for further development. The common issues or the

basic scope for further development derive from the inherent characteristics of distance education and they are summarized under the headings of opening educational opportunity, providing instruction from distance and learning at hand, and using plural number of media while mixing them to maximize the effectiveness of teaching-learning processes.

Opening educational opportunities wider is a continuing task of educational policymakers. Implicit in this statement is an ideal that anyone who wishes to study is assured of access to education at any time in his life no matter where he is located both in terms of physical location and social status.

In order to realize this ideal, it is imperative that major distance education institutions bear in mind that their mission is to make the institutions responsive to the needs of students and thus to repeatedly and carefully carry out surveys on the changing profile of students including their age distribution, professional and academic background, lifestyle, ways of learning and utilization of gains from learning.

Such surveys have been conducted to a certain extent but further effort is called for, and even more important, these institutions as well as the administration should devote their energy toward the timely and effective implementation of counter measures to fill in the gaps between the instructional system and the students' needs revealed by these surveys.

For example, students in all the major distance education institutions are older, holding mostly full-time jobs, having had fairly high academic background, and finding it difficult to spare enough time to study though they are very highly motivated. They are considerably different from those young people who proceed to full-time educational institutions. There ought to be some facility to deviate from traditional standards of formal educational systems devised for full-time study at a youthful stage of life and to accommodate instructional and other curricula to meet their respective needs.

Distance education implies instruction from a distance, and it implicitly describes the system from the instructors' and the administrators' viewpoint. It is a system that can deliver education either through printed materials and correspondence or broadcasting and correspondence more widely, more cheaply and more effectively to the students scattered in the countryside. It thus broadens access to education.

From the students' viewpoint, it should be an educational system which makes learning available at hand, either at the place of domicile or during spare time at work.

The students' viewpoint must be given ample consideration in order to activate the possibilities of distance education. To achieve this, the employment of modern technological devices becomes necessary.

Individualized and interactive communication between the instructors and the students might become economically and practically feasible by the introduction of new electronic media such as facsimile communication, microcomputer communication, electronic board and pick-up phones, CATV and high optical visual system. Research and development of these devices for the use of formal distance education have been promoted in conjunction with the University of the Air project under the auspices of the Ministry of Education, Science and Culture by the National Institute of Multimedia Education.

Distance education makes use of multimedia instruction. In the case of the University of the Air, television and radio broadcast programs, textbooks, correspondence instruction, face-to-face schooling, and provision of video and audiocassettes and facilities for their voluntary use constitute the media of instruction. A student of the University of the Air must integrate information coming through different media in his educational process. A question to be asked is if integration of varieties of information need to be better coordinated for improving the educational process of an independent and distance learner. If multimedia instruction is the rule of distance education and if the integration of the varieties of information on the part of a student is a necessity of distance education, an educator assuming a learner's viewpoint must necessarily acknowledge the following issues that need to be tackled.

First, coordination of media in any course development, for better results, may need careful supervision; staff development programs must be developed and applied to instructors, program directors and editors while reflecting the voices of students.

Second, basic research to clarify the characteristics and limitations of television, radio and printed materials must be conducted leading to the standardization of the method for them to supplement one another. The theory and systems of instructionally effective media mix need to be developed.

Third, supplementary instructional materials which would help students integrate information provided by textbooks and broadcast television and radio programs should be developed and furnished to students as study guides in print, in CAI software and in video and audiocassettes. Consideration should be given that studies through these supplementary instructional materials should partially replace the requirement of face-to-face schooling in order to lessen the burden of transportation on the part of distance education students. These study

guides should lead students to review high school curricula in relevant subjects.

Fourth, production of television programs need to be newly considered in relation to the use of other media and the popular use of videotape recorders. Dissemination of visual information through television instruction requires today a new method of assessment different from print-based instruction.

In summary, distance education requires a fundamental revision of instructional and administrative viewpoint in educational practices. It demands the shift of emphasis from the disciplines of instructors to the needs of students.

Distance education plays a very important role in the comprehensive system of lifelong education. In order to meet the needs of lifelong education, distance education is called upon for a reassessment and a revision of curricula which for the moment rely on the traditional education system.

Finally, a new concept is necessary for structuring formal distance education as a constituent of new social capital. Formal distance education shall contribute to the formation of lifelong learning society in an information era.

PARTICIPATION BY NON-GOVERNMENT AGENCIES

The most important non-government, non-educational institution to make a contribution to distance education has been the NHK, or the Japan Broadcasting Corporation. It has given tremendous support to formal school education by broadcasting educational programs.

In April 1935, commemorating the Tenth Anniversary of the beginning of radio broadcasting, NHK began school programs in three categories: programs for infants, programs for elementary children and programs for teachers. The programs for infants consisted of interesting stories and music and was broadcast for ten minutes every week. The programs for elementary children were made to correspond to each grade, included materials relating to morals, science, music, etc. and were broadcast once a week for ten minutes each. The programs for teachers picked such issues as how to handle subjects and how to manage classrooms and was broadcast for 30 minutes each every week.

School programs were envisioned almost simultaneously with the beginning of television broadcasting by NHK. On an experimental basis, they were produced and broadcast once every week for 15

minutes beginning in October 1951. This program was especially popular and requests were made to furnish materials which otherwise could not be presented in classrooms.

With the start of a regular television service in February 1953, school programs were given a slot of 15 minutes everyday from 1300 to 1315. Programs were produced for school children of specific grade levels and were broadcast on certain days of the week. After one year there were 250 schools using television programs and after two years, there were more than 1,000.

A great leap forward took place in January 1959 when a channel specifically for education was opened by NHK. This channel aimed at broadcasting school programs, social education programs and programs to promote culture in general among adults.

School television programs were produced with specified grade levels as target groups and were broadcast on a specified time schedule for each grade level. Objectives were threefold: first, to focus on specific teaching materials which suit the needs of each level; second, to meet the expectation of the producers who wanted to provide supporting materials for teaching the various subjects; and third, to give broadcasting programs an educational role in such subjects as English and music in which specialized teachers were in short supply.

Particularly successful and well accepted were the television science programs, which presented laboratory experiments, materials which ordinary schools could rarely obtain, and sophisticated models, pictures and charts, which helped students understand scientific phenomena.

The use of school television programs steadily increased and in January 1959, 10.2 per cent of elementary schools and 5.0 per cent of junior high schools reported some use of these programs. In December 1960, the Ministry of Education, Science and Culture adopted a policy of subsidizing 50 per cent of the cost of purchasing television sets for schools, and so by 1965 school use of television programs reached 76.1 per cent for elementary schools and 23.5 per cent for junior high schools.

In the late 1960s and 1970s, inexpensive videotape recorders were in wide use in schools and the style of the use of school television programs changed substantially. The use of school television programs at junior and senior high schools increased very rapidly, thanks to these recording devices which solved the problem of scheduling class hours and broadcasting time. Furthermore many teachers now edit the recorded programs according to their own teaching plans and more and more teachers use edited portions as support materials in their classes.

Correspondence education other than college and high school correspondence education is categorized as social correspondence education and includes those courses which are offered by schools or non-profit corporations and authorized by the Ministry of Education, Science and Culture on the basis of the Social Education Law. There are also those courses which are privately operated without this authorization.

Authorized courses of social correspondence education are given support by the Ministry of Education, Science and Culture, the Ministry of Post and Communications, the Ministry of Labor, the Ministry of Welfare and Prefectural Education Committees. For example, a special discount postage rate is applied, subsidy is given to the handicapped people who participate in them, and in some cases, prizes are awarded by the Ministry of Education, Science and Culture to those who complete certain courses with distinction.

There are three kinds of authorized courses of social correspondence education. These are in: (i) 65 business courses offered by 13 institutions, including accounting statistics, computer, medical assistance, business travel, etc.; (ii) 58 technological courses offered by 15 institutions, including TV repair, electrical work, automobile engineering, construction and surveying, telephone engineering, wireless technology, home appliances technology, etc.; and (iii) 37 life enrichment courses offered by 12 institutions, including cooking, nutrition, nursing, English, music, dressmaking, etc.

The duration of each course is between six months to one year for business courses and between six months to two years in technological and life enrichment courses. Fees are between ¥9,000-41,000 for business courses, ¥9,500-62,000 for technological courses and ¥12,000-42,000 for life enrichment courses.

The profiles of the participants are: in terms of occupation, salaried workers, 52.8 per cent; housewives, 19.3 per cent; self-employed, 3.8 per cent; students, 9.0 per cent and others, 15.1 per cent; and in terms of academic background, high school graduates comprise 35.0 per cent; junior college graduates, 8.7 per cent; college graduates, 22.1 per cent; and others, 34.2 per cent. Purposes of taking up the courses are: for life enrichment, 34.9 per cent; to obtain a vocational certificate, 28.5 per cent; for employment, 15.8 per cent; for changing jobs, 6.7 per cent; to improve the home environment, 5.7 per cent; etc.

When the educational channel was started, NHK began to produce and broadcast social education programs. While school education programs were broadcast during the daytime, social education programs were mostly broadcast in the evening.

A few typical social education series include: "Science in everyday life" which picked topics for clothing, eating and living and gave scientific explanations for women; "Agriculture" for farmers and rural youth; "English" for conversational English learners; "Theater arts" presenting Japanese and foreign theatrical performances preceded or followed by lectures by renowned critics; and "Music" describing the life of major composers accompanied by performances of their masterpieces.

Beginning January 1960, NHK, the Ministry of Education, Science and Culture and the Japanese National Commission for UNESCO jointly sponsored an experimental 13-program series on "Youth". The theme of these series was basic human rights and its objective was the combination of the group-viewing of television programming and activation of concerns through discussion held immediately after the group-viewing organized at public halls across the nation. The success of this experiment led NHK to regular programming of the "Progress of youth" series beginning in April 1960. This series televised programs on the varieties of work, regions and environments of young people which were followed by discussions in the studio.

"NHK women's classroom" was intended to provide a basis for group discussions among housewives after they viewed the program in their own homes. In 1960, for example, it picked up such topics as "Let us read the Constitution", "Traditional homes and homes today", "From handicrafts to automation", and "Changing village life". Representatives of these voluntary classes participated in a national assembly of women jointly organized by the Ministry of Labor and NHK. In 1961, there were 22,176 of these small groups, including 281,377 participants. In 1964, these activities developed into the Movement to Use Television in Daily Life. The movement is still alive.

In February 1959, Japan Education Television (NET) was born as a commercial station which specialized solely in educational and cultural programming. Then in March 1959, Mainichi Television of Osaka and Sapporo Television of Hokkaido were opened and joined the NET network. In April 1961, Tokyo Channel 12 was authorized as a TV station to specialize in science and technology programming. In June 1961, the Association of Educational Broadcasters was organized and at its peak in April 1962, there were 25 member stations, but the number gradually declined thereafter.

For commercial stations, the objectives of obtaining the income necessary to keep the business active and of focusing on educational and cultural programming clearly contradicted each other. Thus in November 1967, the Yomiuri, Mainichi and Sapporo Television Stations ceased

to be semi-educational stations, and obtained an authorization to operate as general purpose stations. Finally in November 1973, NET and Tokyo Channel 12 stopped being educational stations and became general purpose stations.

GOVERNMENTAL POLICIES REGARDING DISTANCE EDUCATION

The Japanese Government has taken the initiative in educational reform by setting up the Provisional Council for Educational Reform under the Prime Minister's Office. The council began its deliberations in order to respond to the Prime Minister's inquiry of 5 September 1984, and submitted its first report on 26 June 1985 and its second report on 23 April 1986. It is expected to submit its third and final report within a year, but the direction of governmental educational policies in the forthcoming years have in general been presented in the two reports issued so far.

The first report recommends that the basic emphasis of the current educational reform should be placed on the encouragement of individuality. It also raises concern about the issues of strengthening the basic studies, nurturing creativity, strengthening thinking ability and skills in expression, expanding the opportunities and choices, humanizing the educational environment, transforming the present system into a lifelong learning system, and responding to an international and informational society.

The second report emphasizes the reorganization of the national educational system in the direction of a lifelong learning system based on the principle of developing individuality. It consists of four parts: first, to direct Japanese education toward the 21st century by focusing on the integration of the educational system into a lifelong learning system; second, to delineate the strategies families, schools and society should take in order to achieve a lifelong learning system; third, to specifically discuss the reform strategies needed to accommodate education to the forthcoming internationalized and information-directed society; and fourth, to suggest that the direction of financial and administrative reform become more diversified, more flexible, more localized and more autonomous.

In such a context, the posture of the Provisional Council on Educational Reform favors the development of distance education. Indeed, the second report makes special reference both to the adoption of new media by educational institutions and to the support of the University of the Air.

Regarding the impact of the new media, the report acknowledges the possibility that personalized new media involving interactive, networking and comprehensive or interchangeable characteristics in terms of visions, sounds, verbal and numerical data may dramatically increase man's ability to handle information, selection and communication and thus drastically revolutionize man's intellectual, informational and technological systems in terms of productive delivery and consuming abilities.

Relative to the transition into a lifelong learning society, the second report recommends first, the development of man's social consciousness so that a person will be evaluated in terms of his/her education no matter where and when he/she received his/her education. Second, it recommends the activation of varieties of learning opportunities and the strengthening of non-school educational institutions, such as corporate classrooms and cultural exercises. Third, it also recommends an increase in the interaction between formal research-educational organizations and society in order to respond to the educational needs which have been brought about by the advancement of science and technology, the development of an information society and inclination of economy to lean to software.

The second report makes special mention of the University of the Air. It expressed the council's expectation that the University will develop as an institution of lifelong learning without being confined to the yokes of traditional institutions of higher education. It particularly emphasizes the efforts of the University of the Air to meet the educational needs of people-at-large by developing both new methods of instruction/learning using multimedia suitable to the University and networks with traditional universities through credit exchange schemes. It also recommends that the University expand its service area nationwide, particularly to inconvenient areas with limited access to higher education, adopt new media in its instruction, such as satellite, video and electronic-mail systems, with international cooperation in mind and cooperate with local governments.

The second report also recommends the improvement of social education by the introduction of personal computers, and the use of video and other new media. It also recommends strengthening college correspondence education by promoting the introduction of new media so that they can also enhance educational opportunities in terms of the vocational, life-enriching and liberal arts needs of the general public. It calls for policy of enabling the University of the Air, social education, and college correspondence courses to work together in meeting the educational needs of the people.

The budgetary and financing problems are still under discussion at

the council and are expected to be included in the third report. The second report, however, suggest some of the general direction that the report will take.

It establishes the principle that national investment in education is a matter of enrichment of basic social capital and demands that the government give special attention to the educational budget. Second, it demands consideration of a taxation system in which tax reduction be considered for the middle-age bracket, for those who have college-age children. Also it asks for simplification of non-taxable donations to educational institutions so that private institutions can more easily solicit donations for educational purposes. Third, it calls for a review of existing institutions in terms of the attainment of their initial objectives.

SCOPE FOR INVOLVEMENT IN INTERNATIONAL ACTIVITIES

The second report of the Provisional Council for Educational Reform dictates the general scope for the internationalization of Japanese education. It raises five issues which require immediate amendment. They are: (i) the re-acculturation of Japanese students brought up overseas; (ii) the systematization and improvement of accepting foreign students into Japanese universities and society; (iii) the reassessment and improvement and expansion of the system of teaching Japanese to foreigners; and (iv) the inclusion of an international scope in the practice of higher education.

Under the fifth heading, it recognizes that the Japanese institutions of higher education, particularly universities, are not as open as they should be in terms of the intrinsically international character of universities. It strongly calls for the internationalization of Japanese universities.

In practical terms, it calls for a total reassessment of university curricula, including both the academic calendar itself and a freer system of transfer between universities and departments, so as to facilitate foreign student exchange. It hails the importance of including foreigners among university faculties and recommends the invitation of a larger number of foreign researchers and educators in various disciplines in addition to foreign language teachers.

In order to cultivate international sensibility and understanding among the Japanese youth, it recommends the revision of the curricula in order to better integrate presently scattered courses on foreign history, cultures and societies; and in order to lead to better international understanding, to offer courses in area studies, comparative

cultures and international relations at the general education level. Reading courses in the classics of the East as well as those of the West are also specifically recommended.

The second report also notes the shortage of systematized cumulation of learning experiences in the Japanese and foreign universities and recommends an increase both in the number of Japanese students sent abroad and in the number of foreign students in Japan. It mentions the shortage of education students going abroad and the shortage of international student exchange. It seeks to expand the scope of learning opportunities beyond the college and university level and positively recognizes the importance of overseas training schemes, particularly in developing countries, and recommends the examination of the possibility of linkage between the Japanese peace corps and higher education.

Appendix A
Page 1

Educational Statistics

A. *Population as of 1984*

(in thousands)

	All Age Groups	9-10 yrs	11-17 yrs	18-25 yrs	26-45 yrs	46 & above
Total	120,235	3,959	13,588	12,865	36,819	38,455
Male	59,155	2,031	6,969	6,552	18,464	17,675
Female	61,080	1,928	6,619	6,313	18,355	20,780
Rural	28,160					
Urban	96,888					

B. *Educational Institutions*

(in thousands)

Institutions		Enrollment			
		Boys	Girls	Capacity	Teachers
1. <i>Primary</i>					
Total	25,040	5,682	5,413	11,095	461,256
National	73	24	24	47	1,776
Local Public	24,799	5,635	5,353	10,988	456,695
Private	168	24	36	60	2,785
2. <i>Secondary (Grades 7-12)</i>					
Total	16,584	5,677	5,490	11,168	551,932
Junior High	11,131	3,068	2,922	5,990	285,123
Senior High	5,453	2,609	2,568	5,178	266,809
3. <i>Colleges and Universities</i>					
Total	1,003	1,452	767	2,220	130,009
Junior College	543	38	333	371	17,760
4-Year College & University	460	1,320	414	1,734	112,249
Graduate*	186	61	9	70	-

4. *Professional Departments*

Medical	78	61,724	13,026	74,750	27,926
Engineering/ Technology	124	334,215	9,375	343,590	16,495
Agriculture	37	51,240	8,828	60,068	5,513
Teacher Training	100	65,217	70,010	135,227	7,952

5. *Technical and Other Tertiary*

Technical Colleges	62	38,565	1,723	48,288	3,700
Public Training Institutes	398			30,900	
Private Vocational Schools	3,015	224,990	312,185	538,175	24,238
Private Training Institutes	4,300	271,695	258,464	530,159	22,010

* Teachers of graduate schools hold double assignment with four-year colleges and universities, although not all of them are qualified to teach in graduate schools.

Distance Education in Malaysia

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INTRODUCTION

The Universiti Sains Malaysia (USM) is the only one authorized to deliver a Distance Education (DE) program to home-based adult students in the country. There are no distance education programs in the school sector in Malaysia, neither is there any vocational or career-oriented DE programs. The USM is one of the very few conventional dual mode universities having such a program.

Its monopoly in the Malaysian context is essentially a result of a governmental directive precluding the other five universities from operating similar programs.

This was accepted in order to maximize the returns from the limited financial, human and other infrastructural investments of a small country.

The program was launched in 1971 on an experimental basis till 1982 when its status was changed to that of a regular program giving it the status of an established faculty.

THE COUNTRY

The Federation of Malaysia is a constitutional monarchy of 13 states of which nine are hereditary sultanates and four are non-hereditary governorships. The Yang Di Pertuan Agong (translated as the supreme ruler) is "elected" for a term of five years from among the nine sultans by the sultans themselves. The country has a parliamentary democracy with a two-tier bicameral government – the states having an elected assembly and the center an elected lower house and an upper senate whose members are appointed by the party in power. There is a clear delineation of state and central powers. Educational affairs rest with the center where the Minister of Education oversees the development of education at all levels through the Directorate of Education headed by a Director General whose responsibility includes all education up to the pre-university level. Universities are established by the Government through the issuance of Royal Charter which governs their activities. In principle the conduct of university affairs rests with the universities themselves – the terms of reference for this is incorporated in the Universities and University Colleges Act; in practice, however, it would not be incorrect to say that through appropriate appointments to various university hierarchies the central government is able to bring sufficient pressures on them to enact policies to suit its objectives.

**Table 1: Population Size and Age Structure
1980-90 in Malaysia**

Age Group	1980		1985		1990		Average Growth 1981- 1985	Annual Rate (%) 1986- 1990
	'000	%	'000	%	'000	%		
Peninsular Malaysia	11,473.0	100.0	12,968.8	100.0	14,605.2	100.0	2.5	2.4
0 - 14	4,484.0	39.1	4,835.1	37.3	5,263.2	36.0	1.5	1.7
15 - 24	2,436.9	21.1	2,726.3	21.0	2,891.0	19.8	2.2	1.2
25 - 39	2,301.2	20.1	2,789.2	21.5	3,333.7	22.8	3.8	3.6
40 - 54	1,310.0	11.4	1,535.3	11.8	1,333.3	12.6	3.2	3.5
55 - 64	515.7	4.5	605.6	4.7	721.3	4.9	3.2	3.5
65+	425.2	3.7	477.3	3.7	562.7	3.9	2.3	3.5

Sabah	1,055.1	100.0	1,279.5	100.0	1,517.4	100.0	3.9	3.4
0 - 14	471.0	44.6	575.1	44.9	667.2	44.0	4.0	3.0
15 - 24	228.5	21.7	244.8	19.1	287.6	19.0	1.4	3.2
25 - 39	201.0	19.1	268.5	21.0	324.0	21.4	5.8	3.8
40 - 54	101.7	9.6	123.5	9.7	152.0	10.0	3.9	4.2
55 - 64	34.1	3.2	41.9	3.3	52.7	3.5	4.1	4.6
65+	18.8	1.8	25.7	2.0	33.7	2.1	6.3	5.4
Sarawak	1,351.1	100.0	1,542.8	100.0	1,754.6	100.0	2.7	2.6
0 - 14	587.5	43.5	636.3	41.2	683.5	39.0	1.6	1.4
15 - 24	266.2	19.7	319.5	20.7	372.5	21.0	3.7	3.1
25 - 39	246.9	18.3	299.2	19.4	360.8	20.6	3.8	3.7
40 - 54	142.2	10.5	164.0	10.6	195.1	11.1	2.9	3.5
55 - 64	61.2	4.5	69.0	4.5	77.6	4.4	2.4	2.3
65+	47.1	3.5	54.8	3.6	65.1	3.7	3.0	3.4
Malaysia	13,879.2	100.0	15,791.1	100.1	17,877.2	100.0	2.6	2.5
0 - 14	5,542.5	43.5	6,046.5	38.3	6,613.9	37.0	1.7	1.8
15 - 24	2,931.6	19.7	3,290.6	20.9	3,551.2	19.8	2.3	1.5
25 - 39	2,749.1	18.3	3,356.9	21.3	4,018.6	22.5	4.0	3.6
55 - 64	611.0	4.5	716.5	4.5	851.6	4.8	3.2	3.5
65+	491.1	3.5	557.8	3.5	661.5	3.7	2.5	3.4

A. Topography

The country is made up of two parts — West or Peninsular Malaysia which is attached to mainland Asia and East Malaysia (Sabah and Sarawak) which form the Northern parts of the Island of Borneo. Together both these land masses cover about 12,300 sq m. While in West Malaysia population concentrations are still found along the coastal regions in the East, it is more evenly distributed in small pockets in the interior except for the capital cities of Kota Kinabalu and Kuching which have higher population concentrations.

B. Demography and Manpower Distribution

At the last count the population of Malaysia stood at 15.8 million people. Of these about 12.9 million or 82.1 per cent are found living in the peninsula and about 1.3 million or 8.1 per cent in Sabah and about 1.5 million or 9.8 per cent in Sarawak. By age the population is seen to have the following characteristics:

- (i) roughly 38.3 per cent or 6 million people are under 14;
- (ii) 20.9 per cent are between 15 and 24 years old;
- (iii) 21.9 per cent are between 25 and 39 years old;
- (iv) 11.5 per cent are between 40 and 54 years old;
- (v) 4.5 per cent are between 55 and 64 years old; and
- (vi) 3.5 per cent above 65 (see Table 1).

The Fifth Malaysia Plan states that there were marked differences in the rate at which the population grew in the country. The elderly, i.e. those above 65 grew at an annual rate of 2.5 per cent while the children, i.e. those below 15 grew at an average rate of 1.7 per cent. Overall the indication for the country into the 1990s seems to show that there will be a rise in the working population as well as an increase in the age dependency ratio, i.e. working Malaysians will be supporting a bigger dependant population with the passage of time. Between 1980 and 1985 fertility rates among Malaysians also showed a declining trend and also a move towards urban living — in 1985, 41.3 per cent of the population was living in urban centers as against 37.4 per cent in 1980. In 1985, 5.5 million Malaysians were employed and this is expected to increase to 6.8 million by 1990, of which at least 35 per cent are expected to be females. Of the working population in 1985:

- (i) 6.5 per cent are in the professional and technical group;
- (ii) 1.1 per cent in the administrative and managerial group;
- (iii) 7.6 per cent in the clerical category;
- (iv) 10.5 per cent in sales;
- (v) 9.6 per cent in service-oriented industries;
- (vi) 34.9 per cent in agriculture; and
- (vii) 29.8 per cent in production.

By 1990 the pattern is not expected to shift much except for the agriculture and production sectors. The former is expected to reduce and the latter to increase. The implication of employment trends on training simply means that the manpower development strategies of the country will be geared towards providing basic training (in schools, colleges and universities) skills upgrading (through institutionalized in-service programs) and retraining (through continuing educational programs via appropriate industrial and public sector training agencies) (see Table 2).

C. Economics

In 1985, the primary sector (agriculture, forestry, mining, etc.) contributed about 30.4 per cent to the country's GDP of Rgt59,344 million while the secondary sector (manufacturing and construction) contributed 24.3 per cent and the tertiary sector (gas, transport, finance, etc.) contributed 44 per cent. By 1990 the GDP is expected to rise to Rgt75,599 million with each of the three sectors contributing 27.4 per cent, 25.8 per cent and 46.3 per cent, respectively. The per capita in the meantime was Rgt4,609 in 1985.

D. Infrastructural Facilities

The country on the whole has good transport and communication facilities though there are significant regional differences between Peninsular Malaya, Sabah and Sarawak. In 1985, the country was estimated to contain 42,330 km of macadamized roads, roughly 6.8 telephones to every 100 people, good postal system covering every town and village as well as a radio and television system that recorded an 80 per cent coverage of the nation.

E. Educational Setting

The present conduct of education in the country is carried out according to the dictates of the Education Act of 1961 with subsequent

Table 2: Employment Estimates by Sector in Malaysia (1980-90)

Sector	1980		1985		1990		Increase 1981- 1986-		Annual Growth Rate (%)		
							1981- 85	1986- 90	1981- 85	4th Plan	1986- 90
	'000	%	'000	%	'000	%	'000	'000			
Agriculture, forestry livestock and fishing	1,910.9	39.7	1,953.2	35.7	2,002.2	32.7	42.3	49.0	0.4	0.7	0.5
Mining and quarrying	80.1	1.7	60.5	1.1	40.5	0.7	-19.6	-20.0	-5.5	-4.7	-7.7
Manufacturing	755.1	15.7	828.0	15.1	941.1	15.4	72.6	113.1	1.9	3.2	2.6
Construction	270.2	5.6	378.7	6.9	476.7	7.8	108.6	98.0	7.0	7.6	4.7
Electricity, gas and water	31.0	0.3	39.9	0.7	46.0	0.8	8.9	6.1	5.2	3.1	2.9
Transport, storage and communication	209.5	4.3	264.9	4.9	326.9	5.3	55.4	62.0	4.8	6.5	4.3
Wholesale, retail trade, hotels and restaurants	676.2	14.0	846.3	15.5	1 044.4	17.1	170.1	198.1	4.6	3.8	4.3
Finance, insurance, real estate and business services	78.3	1.6	101.6	1.9	120.9	2.0	23.3	19.3	5.3	3.4	3.5
Government services	658.2	13.7	849.5	15.0	908.3	14.8	161.3	88.8	4.5	5.3	2.1
Other services	147.4	3.1	175.9	3.2	206.7	3.4	28.5	30.8	3.6	4.0	3.3
Total	4,816.9	100.0	5,468.5	100.0	6,113.7	100.0	651.6	645.2	2.6	3.0	2.3
Labour force	5,108.9		5,917.1		6,797.9		808.2	880.8	3.0	3.1	2.8
Unemployment	292.0		448.6		684.2		156.6	235.6			
Unemployment rate (%)	5.7		7.6		10.1						

modifications since then to suit the changing needs of Malaysian society. As envisaged by the Act, by 1985 free education was made available to children up to secondary school level. The nation's educational system can be stratified into four categories. They are:

- (i) *Pre-school education*: Children between the four and six-year age group receive pre-school education. There are about 5,667 pre-school establishments and they cater to nearly 279,000 children. Almost 80 per cent of these schools are run by government agencies not necessarily by the Ministry of Education. The rest are run by private business concerns. There is a general feeling that this sector of the country's educational system needs careful enquiry as there seems to be a wide variation between the "better" and the "poorer" run schools. Curriculum, supervision, control and training in this sector is seen as an immediate necessity by policymakers and the population at large if the country is to benefit from this activity.
- (ii) *Primary education*: Primary education lasts six years. Children enter school between six and seven and graduate into the lower secondary school at 11 or 12. In 1985, 2.2 million children were enrolled in the nation's primary schools most of which are state-run. It was also estimated in that year that almost 98.3 per cent of the children who had entered Standard 1 in 1980 completed Standard 6 indicating that at least at the primary school level attrition is almost negligible. Five years ago the primary school curriculum was revised to place emphasis on the three Rs and simple manipulative skills to make this sector of education more meaningful to the children at large.
- (iii) *Secondary education*: Transition rates from primary to secondary schools in 1985 was about 88.2 per cent. Almost a million children were registered in the lower secondary schools (age 12 to 14) and another 310,000 were registered in the upper secondary schools (age 15 to 17) making a total of 1.3 million secondary school-going children in the country. Transition from the lower to the upper secondary schools is through a public examination called the Lower Certificate of Education Examination. In 1985, it was estimated that nearly 70 per cent of the lower secondary population moved into the upper secondary program. About 190,000 students sat for their school final examination (Malayan Certificate of Edu-

cation) in that year. For almost all but the top 30 per cent this will be the end of their academic training. The upper 30 per cent enter pre-university (matriculation) programs which leads up to the Malaysian High School Certificate and if successful to the local universities, teacher-training schools, go offshore to pursue tertiary education or follow career, technical and vocational studies locally.

- (iv) *Technical and vocational studies:* There were nine government-run technical schools in the country with a total enrollment of 6,700 students in 1985. These are children who have gone through the primary schools and have opted for a technical career. They are taught certain academic subjects like the natural sciences; however their training thrust is towards subjects such as surveying, engineering, workshop practice, building construction, commerce and technical drawing. Besides these, there are also 40 vocational secondary schools with a total enrollment of 13,700. These schools conduct trade courses of various kinds.
- (v) *Teacher education:* In 1985, 9,100 teachers were under training in the country's 24 teacher-training colleges. Teacher trainees in these colleges are secondary school (MCE or HSC) graduates who undergo a two or three-year program for certification before being deployed in primary and lower secondary schools. Teachers in upper secondary schools are expected to have a degree and would normally undergo a four-year program in the universities. The Fifth Malaysia Plan clearly indicates that there is a shortage of trained teachers at all the three school levels.
- (vi) *Tertiary education:* Malaysia has six universities, the sixth university is just a year old while the other four are about 15 years or so. Four of the universities are multicampus in nature and between the six of them they had an enrollment in excess of 70,000 students in 1985. This figure includes students pursuing degree (54.1 per cent), diploma (36.1 per cent) and certificate (9.8 per cent) courses. Besides these, about 5,280 students were also following matriculation programs in the universities. In 1986, about 8,600 students were freshly enrolled into the universities out of about 50,000 applicants. This shortfall in opportunities is not new and has largely been the most important factor in the movement of Malaysian students overseas. In 1985, it was estimated rather conservatively that about 60,000 Malaysians were studying overseas in

degree and diploma courses. Another 35,000 are expected to go abroad in 1986.

THE OFF-CAMPUS ACADEMIC PROGRAM OF UNIVERSITI SAINS MALAYSIA

It is apparent today as it was in 1969 when the Universiti Sains Malaysia (USM) was set up that the country's ability to provide a university education for all those desiring it was severely constrained by its limited financial and human resources. This partly explains the fact that there are more Malaysians receiving tertiary education overseas than there are those who receive it locally. Therefore, not surprisingly, the founders of the University had with clear foresight included the following as one of the main recommendations of the new University:

"... it was recommended that the new University should have the power to grant external degrees. We agreed and recommended this accordingly. We understand that the University of Malaya has this power, but has not so far exercised (it) on the ground that it lacks the facilities. Our draft constitution leaves it to the authorities of the University of Penang (the original name of the Universiti Sains Malaysia) when to exercise its power to grant external degrees."¹

The University from its inception took the above recommendation seriously. The foundation Vice-Chancellor and his Academic Planning Board declared in 1971 the establishment of their unit for off-campus studies with the following statement:

"... The off-campus education program is a constitutional commitment to enable both the university to benefit itself as well as the society that sustains its educational enterprise. It is to cater for the many Malaysians who, for one reason or another, do not get as much of it (education) as they can turn to advantage or as they discover, sometimes too late, that they need it. It is meant primarily for adult students in full-time employment or working in the home, the program functions to balance the inequalities of opportunity that exists between working men and full time university students."²

¹ Report of the Cabinet Committee on the University of Penang, 1969.

² Report of Academic Planning Board, University of Penang, 1971.

The new unit which was part of the Centre for Educational Studies was given a mandate with several objectives. These were:

- (i) to help those adults who had earlier missed the opportunity for obtaining a higher education and thus qualify for a degree;
- (ii) to narrow the gap of educational objectives among the various ethnic groups in the country;
- (iii) to take education to economically deprived and geographically isolated areas;
- (iv) to increase the nation's (supply of) high level manpower; and
- (v) to improve the performance of those already employed by updating their knowledge and skills.

To these normative aims, the Senate of the University further added the following objectives which were meant to safeguard the standards and credibility of the University's credits offered through the off-campus program:

- (i) to provide a diversified program of studies to enable the off-campus students to obtain a standard of academic excellence similar to that required of on-campus students;
- (ii) to devise new approaches to teaching and learning that can overcome partially or fully the problems of distance between the place of residence on the one hand and the place of instruction on the other; and
- (iii) to organize annually a three-week residential school to:
 - (a) enable students to meet with their instructors and their peers; and
 - (b) to supplement independent learning with face-to-face instruction.

To further safeguard itself from unknown difficulties the University declared the program to be an experimental one from the start (so that it can be terminated without too much of legal exposure should serious problems develop). This meant the University could not provide or commit a lot of resources to this innovation. As such, growth of the program was rather slow during the first decade (see Table 3). It was only in 1981 after graduating 700 students and two rigorous external evaluations later that the program was able to receive full university and government endorsement.

At launching, the University offered courses in the Humanities and Social Sciences. However by 1973, due to pressure especially from the

Table 3: Flow of Student Numbers from Application to Graduation in the Off-Campus Program

Year	Number Applied	Number Offered	Number Accepted	Cumulative Enrollments	Number Graduated
1971	450	89 (18.9%)	89	86	-
1972	529	148 (30%)	131	217	-
1973	1,152	190 (16.5%)	181	380	-
1974	941	213 (22.6%)	192	540	-
1975	1,440	250 (16.5%)	238	667	-
1976	2,064	280 (13.6%)	232	765	55
1977	2,164	274 (12.7%)	206	813	104
1978	3,855	239 (8.65%)	207	742	144
1979	2,412	225 (9.3%)	210	707	127
1980	2,212	242 (10.9%)	238	757	131
1981	3,317	246 (7.4%)	219	742	126
1982	2,623	378 (14.4%)	353	937	123
1983	4,563	483 (10.6%)	438	1,102	92
1984	5,036	515 (10.2%)	452	1,109	141
1985	5,397	762 (14.1%)	713	1,272	139
Total	33,643	4,534 (13.5%)	4,099	10,836	1,189

Ministry of Education courses in the Natural Sciences and Mathematics were also included in the program. During much of this period the academic year was organized on the basis of three terms with annual examinations at the end of the academic year. To further maintain the high quality of the USM degree, off-campus students were expected to spend a compulsory residential year. Since then, while still maintaining all of the safeguards to protect the program's respectability and the University's standards, structural changes have been introduced to include characteristics that make distance education organizationally efficient and academically sound. These changes went through the following main phases:

- (i) *1971-1974*: Keeping in line with the University's three-year Bachelors (with Honors) program of three terms each academic year — part-time students of the off-campus did the same degree with a minimum of three years in the off-campus mode and one final year in the on-campus mode (3+1). Administration of the program was emplaced in the Faculty of Education which controlled its administrative aspects, while

academic issues were controlled by the six (Chemistry, Biology, Physics, Mathematics, Humanities and Social Sciences) faculties that provided the courses.

- (ii) *1975-1980*: The University changed its Honors program into a four-year eight-semester with a 120 (roughly 40 courses) credit units requirement for graduation. The off-campus program followed suit. Students were required to spend four years (earning a minimum of 82 credits) in the off-campus mode and one-year or two semesters (completing the 38 credit units) in the on-campus mode. Administratively, the program was taken out of the Faculty of Education, designated an autonomous unit under the Vice-Chancellor. Academic control was still left to the Faculties providing the courseware.
- (iii) *1981-present*: Following evaluation by a University and Ministry of Education team the unit was upgraded into a center with both academic and administrative responsibilities. This allowed the center to employ academic staff (both educational and content specialist), design curriculum, manage course creation, development, delivery and support. It does not allow the center to award degrees. What the center in practice does is to help off-campus students acquire up to 90 credits in the distance education mode thereby enabling them access for one year full-time study at USM on-campus for 30 more credit units and graduation. Students are now expected to spend a minimum of five years off-campus and one year on-campus (5+1). The rest of this paper describes the operation of this system with reference to the center's past where appropriate.

A. The Students

Unlike the other distance learning systems of Southeast Asia, USM's program is run by a conventional university and therefore not surprisingly it imposes all of the academic entry qualifications such universities impose on prospective students. These are in our case:

- (i) For the non-science program a full High School Certificate (HSC). This means students should have principle-level passes in three subjects at least plus a pass in the general paper;
- (ii) For the science program it is not necessary to have a full HSC, but at least have one principle level pass in one of the three natural sciences and a subsidiary (lower) level pass or its equivalent in Mathematics. Diplomas in Science (in lieu of

HSC) from local universities, polytechnics or teacher-training colleges with at least three years of science teaching experience; and

- (iii) For the Science Foundation Course a pass in the science subjects of the MCE is required.

However, because the University's major objective was to provide an opportunity to men and women in employment certain non-academic criteria were also imposed for admission. These include:

- (i) all applicants except those coming into the Science Foundation Program should be above 21;
- (ii) candidates from the public services should be tenured; and
- (iii) candidates should have a written consent from their employers to attend the residential schools, final year on-campus stint and examinations.

To meet the third objective of the program especially in the science streams, students belonging to the Malay race are accorded special considerations. They are given opportunities to follow a special preparatory program called the Science Foundation Program and entry into it requires no more than a good pass in the Secondary School Examination as well as a lower age limit. Since 1983 approximately 500-600 students are offered admission into the off-campus program annually.

Table 3 shows the pattern of enquiries and admission for the period 1971 to 1985. At the end of 1984-1985 academic year there were 1,272 students registered in the off-campus program. Almost all of them would have found it impossible to enter a conventional university program in Malaysia. A recent survey of about 50 per cent of this student population gave the following demographic data:

Ages of students of the off-campus program:	Per Cent
Above 50 years	0.1
From 36 to 40 years	6.2
From 31 to 35 years	37.3
From 26 to 30 years	52.7
From 20 to 25 years	<u>3.7</u>
Total	<u>100.0</u>
Place of residence:	
Urban	65.0
Rural	<u>35.0</u>
Total	<u>100.0</u>

Sex of students:	
Male	82.5
Female	<u>17.5</u>
Total	<u>100.0</u>
Marital status of students:	
Married	70.0
Single	<u>30.0</u>
Total	<u>100.0</u>
Academic background of students:	
Full High School Certificate Holders	68.0
Partial HSC Holders	14.0
Diploma Holders	4.0
USM Foundation Science Certificate	9.0
Others	<u>5.0</u>
Total	<u>100.0</u>
Job description:	
Teachers (public sector)	55.0
Teachers (private sector)	1.0
Uniformed Services	3.2
Administrative Services (public)	24.0
Technical Services (public)	10.7
Administrative Services (private)	3.5
Technical Services (private)	0.5
Self-employed	<u>0.4</u>
Total	<u>98.3</u>
Annual income levels of students:	
Earnings above Rgt24,000	0.3
Earnings between Rgt18,000 and Rgt23,999	0.7
Earnings between Rgt12,000 and Rgt17,999	10.6
Earnings between Rgt 6,000 and Rgt11,999	77.8
Earnings below Rgt6,000/	<u>10.3</u>
Total	<u>99.7</u>

(Note: US\$1 = Rgt.2.58)

Clearly the off-campus program seems to have succeeded in reaching the target populations it set out to reach in its stated objectives. However, it is also quite clear that the selection policy as well as the modus operandi of the program seems to provide easy access to some (especially those in public employment) and not others (those in private employment and the unemployed or self-employed).

It is also clear that some groups (especially teachers and administrators) seem to avail themselves of opportunities more so than others (the uniformed services). Teachers and administrators have more opportunities for upward mobility in their jobs often closely associated with formal qualifications. In many ways the distribution of our students between rural and urban sectors is a consequence of the nature of the programs offered. Courses leading up to a Bachelor's degree in Arts and Science are not particularly appealing or useful to agriculturally-oriented rural Malaysians. The third of our students who do come from the rural areas are almost completely from the teaching fraternity. They, more through necessity rather than choice, live in rural settings. Most of our students have the minimum qualification for entry into conventional university programs. The country's six universities offer opportunities to less than 30 per cent of all potential applicants who qualify. Therefore competition for entry into universities is high and unless one has good pre-university qualifications, one stands little chance of gaining entry. As a result, highly qualified individuals apply for admission to the program. Table 3 clearly illustrates the gap between applicants and admissions into our system for the last ten years. In 1986, there were at least ten applicants for every one off-campus place available. This trend is expected to continue.

B. Academic Structure

Being tied to a conventional university and its graduation requirements the program's academic structure had to conform to it. The three degrees offered are patterned after traditional Commonwealth structures. Students are expected to work 4,000 + hours spread over four years in the full-time mode. The 4,000 hours are divided into 120 credit units offered over eight semesters. Off-campus students are not full-time students and therefore the University has presumed that it may not be possible for them to acquire the necessary graduating credit units in eight semesters over four years like their on-campus counterparts. Based on this premise the academic program is structured as follows:

- (i) the students will be expected to acquire 75 or 90 per cent of

their credit units in the off-campus mode and the remaining 25 per cent in a final full-time residential year where they will follow higher level courses;

- (ii) in the off-campus mode students are expected to take a minimum of five (stages) academic years (up to a maximum of ten) to acquire the 90 credit units. This works out to about 18 credit units a year;
- (iii) each academic year for the off-campus student takes 35 weeks of which three are spent in residence at the University (the Intensive Course). An on-campus student on the other hand carries the same load in a semester lasting 15 weeks; and
- (iv) students have a choice of majoring in Science and Mathematics (B.Sc. with Honors), or Humanities (B.A. with Honors) or Social Science (B.Soc.Sc.). They are also allowed to cross minor in any of the three areas provided they satisfy the necessary prerequisites. In 1985, students were spread among the three programs as follows:

Arts	414
Social Sciences	336
Sciences	522

C. The Courses

The University desired that the courses offered in the off-campus mode should not be dissimilar to those offered in the on-campus mode at least as far as the content was concerned. However, USM demanded that course delivery should be appropriate to suit the needs of the home-based learner. In return for this, the University in its transcripts and other official documents deliberately does not distinguish between those graduating through the off or on-campus mode.

In 1971, when the program started, only eight courses were offered in the off-campus mode. In the current year (1986) 128 courses are available to off-campus students throughout Malaysia. Table 4 illustrates the progress of our course development over the years. The reduction in the number of courses after 1983 reflects attempts by the center to rationalize curriculum following the 1981 review.

Table 5 gives a picture of the kinds of courses that have been developed by the program in the last five years. To those familiar with the science subjects, I would like to point out here that almost all of the laboratory and field work deemed necessary for the conduct of good science teaching is incorporated into our teaching systems.

Table 4: Number of Courses Developed for the Off-Campus Program

Year	Social Sciences	Humanities	Lang.	Arts	Physics	Chemistry	Biology	Math.	Total Sciences	Grand Total
1971	5	2	1	8	—	—	—	—	—	8
1972	5	5	—	10	—	—	—	—	—	10
1973	11	14	2	27	5	—	—	2	7	34
1974	15	11	2	28	10	5	4	7	26	54
1975	12	9	1	22	16	11	8	7	42	64
1976	14	12	1	27	16	15	12	14	57	84
1977	16	15	2	33	18	19	16	19	73	106
1978	21	11	9	41	20	18	16	20	74	115
1979	25	18	8	51	22	20	16	22	80	131
1980	23	17	14	54	23	25	20	24	92	146
1981	23	17	12	52	23	26	21	17	87	139
1982	23	18	12	53	20	29	21	19	89	142
1983	20	18	11	49	25	28	21	18	92	141
1984	36	33	15	84	34	37	21	36	136	220
1985	16	16	4	68	20	14	12	14	60	128

Note: A course is a program of studies and is weighted in units. One unit is equivalent to about 50 hours of work. Unit weightages of courses vary.

Table 5: Courses Offered Through the Off-Campus Program

BIOLOGY		
Stage 1	Lower Plants	Invertebrate Zoology
Stage 2	Higher Plants	Vertebrate Zoology
Stage 3	Biochemistry	Genetics
Stage 4	Ecology	Microbiology
Stage 5	Physiology	Evolution
	Histology	Comparative Anatomy
CHEMISTRY		
Stage 1	General Chemistry I	General Chemistry II
Stage 2	General Chemistry III	General Chemistry IV
Stage 3	Inorganic Chemistry	Physical Chemistry I
Stage 4	Organic Chemistry I	Analytical Chemistry
	Coordination Chemistry	
Stage 5	Organic Chemistry II	Physical Chemistry II
	Quantum Chemistry/ Macromolecules/Organometals	
PHYSICS		
Stage 1	Classical Mechanics	Thermodynamics
Stage 2	Waves & Vibrations	Properties of Matter
Stage 3	Electricity/Magnetism	Intro. Electronics
	Optics I	Modern Physics I

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Stage 4	Relativity Mathematics Modern Physics II	Statistical Mechanics Optics 2
Stage 5	Electronics Electricity/Magnetism II	Classical Mechanics II Modern Physics II

MATHEMATICS

Stage 1	Calculus I	Elementary Statistics
Stage 2	Calculus II	Matrices & Determinants
Stage 3	Advanced Calculus	Statistical Methods Geometry
Stage 4	Differential Equations Mathematical Methods	Probability Theory Vector Space
Stage 5	Complex Analysis Introduction to Operational Research	Algebra

HUMANITIES

Stage 1		
Introduction		Introduction to Geography
Introduction to Performing Arts		Introduction to History
Stage 2		
Critical Thinking		Introduction to Islam
Introduction to Communication		
Stage 3		
Literary Critique		Human Geography
Modern Malay Fiction		Physical Geography
Survey of Japanese History		
Political History of Malaysia from Malacca Sultanate to 1941		
Stage 4		
Islamic Literature in Nusantara		Economic Geography
Modern African Literature		Regional Geography
Early History of East Asia		Geomorphology
Modern History of East Asia		
Stage 5		
Literature and Supporting Disciplines		Quantitative Methods in Geography
Study of Classical Malay Text		Regional Geography of ASEAN
Modern Arab Fiction		Economic History of Asia
Modern European History		Socioeconomic History of Malaysia
		Imperialism and Nationalism in India

SOCIAL SCIENCES

Stage 1

Introduction to Economics
Introduction to Developmental
Studies

Introduction to Political Science
Man and Society

Stage 2

Malaysian Society
Research Methods

Quantitative Methods

Stage 3

Introduction to Public
Administration
Introduction to International
Relations
Social Theories I
Poverty and Inequality

Microeconomics

Macroeconomics

Development Theory 1

Stage 4

Introduction to Comparative
Politics
Introduction to Political
Philosophies
Race and Ethnicity
Peasant Society

Money and Banking
International Economics
Labor Economics
Development Theory 2
Issues in Development

Stage 5

Third World Ideologies
Role of Big Powers in Asia
Development Administration
Human Ecology
Religion and Society

Quantitative Economics
Intermediate Microeconomics
Intermediate Macroeconomics
Change and Modernization

LANGUAGES

Stages 1 to 5

General English

Scientific English

Bahasa Malaysia

FOUNDATION SCIENCE

Elementary Mathematics
Biology

Chemistry
Physics

Table 6 illustrates the courses in the 1985-1986 academic year. To the "money-minded" I should point out that courses at the upper levels will not make any economic sense. However the hidden benefits of having well-written courseware in our National Language (Malay) espe-

cially in the Science subjects and thereby becoming available to the on-campus students in all the Malaysian universities clearly overrides other cost-benefit considerations.

**Table 6: Courses in the Off-Campus Program
(1985/1986)**

Courses

BIOLOGY

Lower Plants
Invertebrate Zoology
Higher Plants
Vertebrate Zoology
Biochemistry Genetics
Genetics
Ecology
Microbiology
Physiology
Evolution
Histology
Comparative Anatomy

CHEMISTRY

General Chemistry I
General Chemistry II
General Chemistry III
General Chemistry IV
Inorganic Chemistry
Physical Chemistry I
Organic Chemistry I
Analytical Chemistry
Coordination Chemistry
Organic Chemistry II
Physical Chemistry II
Quantum
Chemistry/Macromolecules/
Organometals

HUMANITIES

Introduction to Literature
Introduction to Geography
Introduction to Performing Arts
Introduction to History
Critical Thinking
Introduction to Islam
Introduction to Communication
Literary Critique
Human Geography
Modern Malay Fiction
Physical Geography
Survey of Japanese History
Political History of Malaysia
from Malacca Sultanate to 1941
Islamic Literature in Nusantara
Economic Geography
Modern African Literature
Regional Geography
Early History of East Asia
Geomorphology
Modern History of East Asia
Literature and Supporting
Discipline
Study of Classical Malay Texts
Modern Arab Fiction
Quantitative Methods in
Geography
Regional Geography of ASEAN
Economic History of Asia
Socioeconomic History of Malaysia
Modern European History
Imperialism and Nationalism in
India

PHYSICS

Classical Mechanics
Thermodynamics
Waves & Vibrations
Properties of Matter
Electricity/Magnetism
Intro. Electronics
Optics 1
Modern Physics I
Relativity
Statistical Mechanics
Mathematics
Optics 2
Modern Physics II
Electronics
Classical Mechanics II
Electricity/Magnetism II
Modern Physics II

MATHEMATICS

Calculus I
Elementary Statistics
Calculus II
Matrices & Determinants
Advanced Calculus
Statistical Methods
Geometry
Differential Equations
Probability Theory
Mathematical Methods
Vector Space
Complex Analysis
Algebra
Introduction to Operational
Research

SOCIAL SCIENCE

Introduction to Economics
Introduction to Political Sciences
Introduction to Developmental
Studies
Man and Society
Malaysian Society
Quantitative Society
Research Methods
Introduction to Public
Administration
Microeconomics
Introduction to International
Relations
Macroeconomics
Social Theories I
Development Theory I
Poverty and Inequality
Introduction to Comparative
Politics
Money and Banking
Introduction to Political
Philosophies
International Economics
Labour Economics
Race and Ethnicity
Development Theory 2
Peasant Society
Issues in Development
Third World Ideologies
Quantitative Economics
Role of Big Powers in Asia
Intermediate Microeconomics
Development Administration
Intermediate Macroeconomics
Human Ecology
Change and Modernization
Religion and Society

LANGUAGES

General English
Scientific English
Bahasa Malaysia

FOUNDATION SCIENCE

Elementary Mathematics
Biology
Chemistry
Physics

D. Course Creation

Like any other organization involved in distance education, the creative act of teaching is divided among different persons. At USM teaching is performed by:

- (i) a lecturer or a team of lecturers from the Centre of Off-Campus Studies or from any of the other Faculties of the University who create the printed material as well as conceptualize and sometimes produce other media supplements. In these tasks the teacher can avail himself or herself of the instructional design and other (editorial) expertise located in the center. Technical and design expertise is also available from the Centre for Educational Technology of the University;
- (ii) a lecturer or lecturers who "manage" the course when it is delivered to the students. These individuals are responsible for preparing the assignment, examination and conduct of the intensive course from year-to-year. Course managers need not be, though they often are, the same individuals who create the courses in the first place; and
- (iii) the regional tutor who meets with the students, in the many study centers, throughout the academic year.

All of these teachers are expected to work together with the knowledge that the whole operation encompasses a single teaching act even though their individual efforts are separately created or performed. It is therefore essential that a carefully devised plan be prepared for course development with complete awareness of the other person's responsibilities. This process is complex and it follows a series of carefully defined steps. These are in five stages:

- (i) *Stage 1: Planning* – decisions are made on the curriculum by the academic board of the center. A draft curriculum is usually prepared by a select committee made up of experts drawn from within the university community. On receiving approval for the curriculum from the center's board the paper is sent to the University's senate for scrutiny and acceptance. This curriculum is now ready for implementation.
- (ii) *Stage 2: The development stage* where a course author is identified to transform the curriculum into multimediated self-instructional lessons. The course author will be expected to work with a team of experts from the center. This team includes an *academic consultant* who is familiar with the discipline, an *instructional designer* and an editor. When non-print media inclusions are considered for a course, a media person from the Centre for Educational Technologies sits in the team. Attempts will also be made at this stage to expose the author to distance teaching techniques. The author is encouraged to write according to a pre-designed computer-modeled template (see next section for details). This, though a little didactic, accelerates the process of course development and in many ways also enhances the speed at which conventional academics learn to write interactively. Draft lessons are circulated among the team for "friendly" comments and review before a final version is done for production.
- (iii) *Stage 3: Details of the production stage* is described in the next section. Suffice to state at this juncture is the fact that production is carried out in two phases. In Phase I manuscripts are reproduced cheaply and quickly for delivery to students. These are then evaluated thoroughly for one or two academic years. Following evaluation a revision is done and the revised course is then printed to match industry standards. This is Phase II. Materials produced thus are used for the next five years at least.
- (iv) *Stage 4: The evaluation stage* begins with the first delivery of the course. Students, tutors, fellow subject specialists and professional educators are invited to comment on the instructional quality and accuracy of content of the material. The center's staff along with the author analyze the reports, suggest appropriate revisions (*Stage 5*) to be undertaken by the author and send the revised text for final and finer reproduction.

E. Course Production

The center's course production system has changed over the years from the simple typed-stenciled-cyclostyled-stapled route of the early seventies to the electronic-based system of today. The course production activity begins from the early stages of course development. The course production system that is described below has been developed over the past three years with the Open Learning Institute of British Columbia, Canada, with financial assistance from the Canadian International Development Agency.

The course production system starts with the presumption that distance teaching materials need a format and instructional design consistency that will make learning adjustments from course-to-course easier for students. This simply means having a publishing house style that will clearly define the structural elements of all courseware. Such elements will include the location and listing of course/unit/lesson objectives, assessment and feedback situations, cueing devices for appropriate interactive situations, the design for diagrams, captions, type sizes and styles, etc. The USM course production system constructs a programmed template of all the above structural elements which is then provided to the course creation team as well as the print production people. The former use the template to "fill in" the content while the latter will use the same template to transform the manuscript into the USM house-style. I would particularly like to draw your attention to those aspects of the course that have pedagogic significance, namely the tutorial aspects (questions and feedbacks in the text), the emplacement of cueing devices, etc. It is inevitable that such a system will have no choice but to depend on a fairly sophisticated computer-based text processing system. In the off-campus center we use the Digital PDP 11/73 system for all of our word processing. Word processed manuscripts are then circulated to the course team for scrutiny, revision and proofreading. The manuscript is then changed according to the course team's decision. The manuscript which is now production ready is reviewed by the author, instructional designer and editor to make decisions on layout, graphics, etc. These are all done on screen and appropriate formatting is instituted. At this point the USM production system does not have the necessary hardware to do page make-up on screen. Therefore a letter quality hard copy of the page is first printed on high quality paper. Graphical elements are then pasted on to the hard copy. This copy is then sent to the University's printshop where offset paper masters are made and the necessary copies printed. Finishing is also done at the printshop. The materials are now ready for

dispatch to the students. In the meantime the manuscript is stored in our computer files for subsequent retrieval for future use (in the final edition).

The Central Printing Unit of the University has very recently installed a state-of-the-art typesetting facility. The system accepts floppy disks from 18 types of computers ranging from dedicated word processors to PCs using a variety of word processing software. Through the multidisc reader it transcribes the manuscript into its own language while at the same time allowing our typesetting staff to do text layout on screen, following which it electronically converts the text into high quality typeset form and delivers it in bromide for the graphic and paste-up staff to make production ready copies. The system allows us the freedom to allow our course teams to use their own PCs to do the writing, editing and proofreading and deliver to the printshop a diskette that only needs minimum manipulation before production. We save a lot of time.

F. Media and Media Production

It was very clear to USM from 1971 that our small number and the relative inexperience of our staff cannot justify the use of public broadcast media in the delivery of our courseware. However as educators all over the world became more and more aware of the needs of home-based learners it also became evident to us that a diversification in media use was a pedagogic necessity. Consequently, following the program's review, policy decisions were made to incorporate at least a 30 per cent non-print media component into all our courseware. This included the use of a 30-min./week radio air time given free to USM by Radio Malaysia. Currently the following non-print media methods are being used by the off-campus:

- (i) *Radio*: This is a half-hour facility given to us free by Radio Malaysia. The program serves to broadcast information pertaining to counselling (especially during examination periods) administration, and courses especially in the lower levels where student numbers are relatively high.
- (ii) *Audiocassettes*: A number of the science programs and a few non-science programs have audiocassette components. These are given free to students as part of their courseware. The cassettes either stand alone or go as part of an Audio Graphic

sequence. They serve to lead students through difficult abstract and conceptual problems, description of processes, interviews, live tutorial discussions, etc.

- (iii) *Videocassettes*: This medium offers exciting possibilities — but it also comes with the responsibility that it necessitates proper use and not present just a talking face. There is gradual experimentation in its use — however there is little possibility of it becoming widely considered by the academic community.

Though there is widespread discussion among the administrators of the center in terms of using other communication technologies like telephone tutoring, video texts, shared teleconferencing, cost considerations and a desire to sensibly use them may act as deterrents for their rapid implementation. The center has not reached the 30 per cent policy target — one which in my opinion is not absolutely necessary if the program is to achieve cost-effectiveness; neither is it necessary given Malaysia's state of communication technology development to launch expensive state-of-the-art technologies for course delivery where cheaper alternatives are available.

All USM non-print media material are created and produced in the University. The University has excellent, almost broadcast quality studio facilities for audio and video production. Through intra-university contractual obligations, the Centre for Educational Technology carries out all our production. The producers, technicians and facilities belong to the CET. The academic and instruction design aspects of media programs come from the off-campus. Together the two centers have been able to produce all of the media needs of the University. While radio programs reach acceptable broadcast quality, the other programs leave a lot of room for further improvement.

G. The Delivery System

Courses in the off-campus program are delivered in a variety of form. Briefly the following modes of delivery are used — a short note on how each mode is used is also included.

- (i) *Print*: This is the principal teaching instrument. All material for a course is presented in an interactive text. We follow two styles, often mixing both. In one form a comprehensive study guide is written around a recognized textbook or book of

readings. In the second form, especially in the science and mathematics courses, comprehensive interactive texts are created. These texts include all of the content a course needs. This is so because of a lack of good textbooks in Bahasa Malaysia (Malay Language) which is the medium of instruction in all Malaysian universities. This production of science books in the national language is one of the valuable spinoffs of the off-campus program.

- (ii) *Radio*: Used weekly for counselling and general information purposes. Our research shows that this medium is unreliable as a teaching tool in the Off-Campus Program mainly because of the frequency of postponed and cancelled programs by the broadcasting organization. Students soon learn not to rely on published timetables. Therefore, very realistically, missing radio programs should not expose students to examination difficulties, consequently enrichment becomes the major purpose of the medium.
- (iii) *Audiocassette*: This medium is used for direct teaching, comprehension and review. Cassettes are supplied along with other materials to all students. The Centre's present rather cumbersome policy of requiring students to return the cassettes to the University at the end of each academic year needs a review. With the price of audiocassettes (which are normally the shorter C 30 versions) so low and the cost of labor to check the returned tapes so high coupled with postage makes it an uneconomical proposition.
- (iv) *Videocassette*: Instructional designers in USM agree that this is an exciting media but one which requires imaginative use. That requirement is an inhibitory factor as far as the academics are concerned. Progress in the development of video as a delivery mechanism is slow. The medium is presently envisaged for group use in study centers. However given the rather loose enforcement of copyright regulations in Malaysia one can expect students copying programs for individual use, over time.
- (v) *Interpersonal*: Dual mode institutions have a distinctive advantage in their availability of human academic talent. USM uses this resource to great advantage. The annual residential school of three weeks provides students unlimited access to course writers, course managers and other academics for

consultation. One cannot help but believe that the greatest amount of teaching/learning takes place at this time. During the rest of the year the University makes available regionally-based part-time tutors especially for the science and mathematics courses for consultation. These tutors are regularly trained for their jobs by the University. Often they are graduate high school teachers.

Distance Education in New Zealand

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THE DEVELOPMENT OF DISTANCE EDUCATION IN NEW ZEALAND

Background: New Zealand and Its Education System

New Zealand, a mountainous country with an area about the same as that of Japan or Malaysia, is made up of two main islands and many smaller ones. Of its population of 3,300,000, about 84 per cent are urban and the rest are mostly located on intensively farmed coastal lowlands. Much of the country is sparsely populated or uninhabited. The economy is heavily dependent on the export of agricultural products and this is supported by highly developed research, technology and other associated services. Relatively small in numbers, New Zealand's rural sector is very important economically, and this is well recognized by the education system. The national philosophy is that education should be available to all according to their needs and there has been a free, secular and compulsory system of primary and secondary schools controlled by the central government since 1877. The state has also accepted responsibility for the provision of university, technical and other educational institutions as well. Appendix A shows the types of educational institutions in New Zealand, the age and class levels for these.

New Zealand Distance Education: Origins and Goals

The first distance teaching service was provided by the state in 1922 when the New Zealand Correspondence School opened. Like many developments in distance teaching since that date, it was aimed at equalizing opportunity for isolated pupils and soon also catered for children whose health or disability prevented school attendance. The growth of distance education in New Zealand has paralleled two main lines of development. On the one hand, the state has extended existing services to meet the needs of other disadvantaged groups. On the other hand, distance services have been developed as staff or plant in other institutions could not meet demands for trained personnel or as it was recognized that the infrastructure of a distance teaching institution already in place could meet a new or emerging educational need.

The use of distance teaching as a means of providing equality of access to education has helped to ensure that the teaching was at a standard equal to that of the face-to-face public institutions. It has been taken for granted at all levels that distance students follow the same syllabus, sit the same examinations, meet the same course requirements

as those for other students at the same level. Teachers involved in distance teaching are either concurrently also employed in face-to-face teaching or meet the same standards as face-to-face institutions require. Distance teaching institutions therefore are seen as working within the education system and meeting if not exceeding its standards. In spite of this, distance teaching institutions still are seen by some as being a second rate option compared with face-to-face tuition.

As technology and distance teaching methods improve, the number of successful distance students continue to grow and its status is becoming more respected¹.

Because distance teaching started in New Zealand over 60 years ago, there is a long tradition of its methods being seen as synonymous with a correspondence system and it is certainly true today that in this country the great bulk of distance teaching is still a postal service focusing on the use of printed material, thus making it accessible to all and not just those who can afford access to technology. New Zealand's small population and restricted radio, television and telephone services, especially in many rural areas, have until recently prevented more technologically advanced methods. Up to now the greatest emphasis in improving services in distance teaching has been on improving the quality and effectiveness of printed assignments and associated support services. However, as will be referred to later, there are a number of other media being used with good effect and more are being evaluated.

Summary

Distance education in New Zealand has two main functions:

- (i) To extend equality of educational opportunity; and
- (ii) To contribute to the development and retraining of the labor force.

The main features of distance education in New Zealand are:

- (i) It is provided mainly through state-controlled and funded institutions although there are a number of private services available.
- (ii) It is mainly a postal and paper service but is extending the variety of methods used.
- (iii) It aims to meet performance criteria set by conventional face-to-face teaching institutions.
- (iv) It is free or provided at very low cost.

Main Distance Education Institutions

There are three main state-funded distance teaching institutions in New Zealand each of which provides for a particular target population. All three provide coverage for the entire country. Their place in the system is shown in Appendix A. A description of each institution follows.

A. New Zealand Correspondence School

This is a single mode, distance teaching school controlled and operated by the New Zealand Department of Education.

1. Brief Historical Outline

The Correspondence School was established in 1892 for teaching a primary, aged, isolated and other pupils not able to get to a local school. Secondary pupils were enrolled in 1928. By 1936, the school had started regular radio broadcasts to pupils and in 1939 started enrolling students of other secondary schools for courses not available locally. Adults have been enrolled as part-time students since 1945 and in 1977 provision was made for a kindergarten program for isolated pre-schoolers. During the 1950s the Correspondence School began special educational services for the handicapped. In 1961, the Correspondence School provided courses to improve the qualifications of practising, certificated teachers. This program, called the Advanced Studies for Teachers' Unit, was transferred in 1984 to the Palmerston North Teachers' College where it continues to operate.

*2. Target Population¹**(a) Numbers and types of students*

Correspondence School Enrollment 1985

	Boys	Girls	Total
Pre-School and Primary School	1,157	930	2,087
Secondary Full-Time	419	634	1,053
Secondary-Other Schools	—	—	—
Adults Part-time	2,819	7,599	10,418

¹ Enrollment figures for all institutions from 1976-1986 are shown in Annex C.

(b) Enrollment and Fees

Enrollment is restricted to students who cannot get tuition at a local school. The main criteria involved are:

- (i) distance from home to school;
- (ii) the non-availability of a course or specialist service at a local school; and
- (iii) factors such as health, disability, job requirements affecting ability to attend a local school.

For school children the roll is open to all who are eligible and is compulsory when they cannot get to another school. Students from other schools may enroll if courses that are essential to their future are not available locally. Adults may enroll usually for part-time study if they are unable to take courses locally. There are no fees for school-aged pupils. For adults \$15 is charged to cover postal costs. This fee is under review at present.

3. Courses and Teaching

In New Zealand there are national syllabuses and prescriptions for all state schools and the Correspondence School courses are based on these. A full program is provided at primary and pre-school levels and the school teaches most of the secondary subjects available in the New Zealand curriculum and more are provided by any other school in the country. All courses are made up of 15 to 20 written assignments together with supporting material in the form of audiotapes, pictures and slides and kits of material for practical work. Library books and texts are also lent. Returned completed assignments are marked and sent back to pupils by teachers together with new work.

4. Student Support Services

These services are most highly developed for the full-time school-aged pupils for whom the Correspondence School is their only option and who, because of immaturity and relative lack of skills, are most in need of help with distance learning. Services provided include:

- (i) *Resident teachers* - there are nine of these itinerant teachers who are employed full-time to help pupils in their homes.
- (ii) *Regular radio broadcasts* have been provided on national

radio for over 60 years. These are for about 20-25 minutes daily and provide advice and information and tuition in most aspects of the school's work. Trial television broadcasts were made in 1981 and 1982.

- (iii) *Audiotapes* are an integral part of some courses, for instance in languages and music.
- (iv) *Guidance*: There is a career and guidance service for all pupils, especially those experiencing any difficulty.
- (v) *Telephone*: Extensive use is made of calls to pupils and other schools. Teleconference calls are used for staff meetings but not as yet for tuition.
- (vi) *Library*: This lends to students who are not able to get access to a local service.
- (vii) *School camps, school days and seminars* are held in many parts of the country.
- (viii) *Recreational clubs* are organized for many hobbies or other special interest groups.
- (ix) *Magazines and newsletters* are published at regular intervals.

5. Course Production

Course production is carried out entirely by the teaching staff of the school. The school has a team of production advisers and editors who help course writers with teaching and presentation methods and with organizing their material for distance teaching. In-service courses are provided for course writers and there is close liaison with the curriculum development officers of the Department of Education to keep writers aware of impending changes.

6. Structure, Management and Control

The school is controlled by the Department of Education. An advisory body represents the combined views of staff, parents of full-time students and departmental officials to the Department of Education on matters of planning and policy. Advising on planning and policy and day-to-day running of the school is in the hands of a Principal. Within the school there are Pre-school, Primary, Secondary and Special Education divisions, each with its own course production and teaching service and each supported by a number of specialty teachers and administrative groups including: course editing and illustrating, audiotape production, radio broadcasting, typing, mail despatch and circulation, library, accounting and stores and Guidance. Teaching and

course writing are managed by subject departments of specialist teachers in the secondary division while in the Primary and Special Education Sections most teachers are generalists.

7. Staffing and Staff Training

Teaching staff are recruited from the national state and private schools. They must all be trained and registered teachers and work under the same regulations and are paid the same as teachers in state schools.

Service in the Correspondence School is equated with service in ordinary Kindergartens, Primary or Secondary Schools. Numbers of teaching staff are determined by ratios based on roll numbers as follows: Pre-school, 1:30; Primary, 1:35; Special Education, 1:30; Full-time Secondary, 1:20; Part-time Secondary, 1:55 (approximately).

There is no formal training in distance teaching provided in New Zealand teacher-training institutions. The school has an induction program for newly appointed staff and on-the-job training in most aspects of the school's work, especially radio and audio production course writing, guidance and other support work.

All teachers also have access to the same in-service programs offered for teachers in other schools and are kept fully up-to-date with developments in curriculum and other aspects of educational change. Staff entitlement in the last four years are:

	1982/83	1983/84	1984/85	1985/86
Pre-school	13	13	13	17
Primary	25	27	25	25
Special Education	42	43	42	50
Secondary	305	304	323	342
Administration	69	69	69	69
Total	454	456	472	503

8. Finance and Budgeting

There is an annual budget based on past patterns of expenditure together with approved new policy costs.

Funding for the Last Four Years by Major Category
(In thousand dollars)

	1982/83	1983/84	1984/85	1985/86
Staff Salaries and Wages:				
Teaching Staff	9,130	9,138	9,395	10,909
Administration Staff	903	904	989	1,115
Operating Costs	1,476	1,658	1,815	2,332
Capital Costs	33	44	58	57
Grants	7	7	7	7
Total	11,549	11,751	12,264	14,420

Salaries account for 85 per cent of total expenditure. Other substantial items are post office charges (mail and telephone), printing and stationery, books and other teaching materials, student and teacher travel.

9. Evaluation

Monitoring and evaluating the work of a distance teaching institution needs to be concerned with several different perspectives. The following are examples of evaluation targets and data used for assessing them in the Correspondence School:

- (i) *Comparability of student performance* both from year to year and with standards achieved in other New Zealand Schools.

Percentage Passing Public Examinations

	1980	1981	1982	1983	1984	1985
University Bursary (Form 7)	53	51	59	62	68	62
University Entrance (Form 6)	63	66	68	66	67	67
School Certificate (Form 5)	54	56	59	59	59	58

Student pass rates are in the main maintaining or improving their levels from year to year and these levels are comparable with those from other schools.

- (ii) *Costs*: The per capita costs for pupils can be compared annually with those in other types of schools.

**Annual Operating Costs per Pupil
(in \$)**

Pupils Attending	Financial Year					
	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86
State Primary Schools	820	1,024	1,145	1,196	1,244	—
State Secondary Schools	1,606	1,734	1,849	1,855	1,956	—
Correspondence School (All Pupils)	959	1,114	1,238	1,260	1,553	1,725

- (iii) *Dropout rates*: These are indications of the effect of support services both pre and past enrollment and of the holding power of courses. Recent surveys show for example that some 25 per cent of adult part-time students submit no work following enrollment and course completion rates in different subjects which range from about 25 per cent to about 50 per cent.
- (iv) *Rate of return of work* is an important feature of distance teaching. Student motivation and productivity is promoted by prompt and supportive feedback from teachers and the institutions' marking and delivery systems need to function quickly and efficiently to enable a good rate of turnaround of work. To help monitor this the Correspondence School keeps several types of records of work returns and marking rates (see Appendix D for example). To enable continuing study of workflow, identification of trouble spots and data for planning, staffing and other school organization are pre-requisites.
- (v) *Periodical reports*: All sections are required to report at regular intervals on workloads, organizations and other matters related to the operation of their sector.
- (vi) *Reports to parents and schools*: For all school age students reports on progress are made twice yearly so that all concerned with their progress may be informed.

B. Technical Correspondence Institute, Lower Hutt

This is the only tertiary institution in the country which is a single-mode distance teaching institution. It provides almost entirely for part-time students.

1. Brief Historical Outline

In New Zealand, vocational and technical courses were first provided in Technical Secondary Schools which were set up at the turn of

the century to cater to students who were not destined for university and needed something more than the academically-oriented courses in the conventional secondary schools of the day. These Technical High Schools over the years introduced evening classes for part-time students in a wide range of vocational and technical subjects. In 1960, they were converted into a national system of technical institutions at the tertiary level for both part and full-time students and their school age pupils transferred to new or existing secondary schools. While this system was evolving, the Wellington Technical College before World War II had introduced some correspondence courses. During World War II, servicemen were provided with opportunities to study for a vocational qualification through the Army Education and Welfare Service and in 1946 the AEWS and Wellington Technical College correspondence courses were combined to form a Technical Correspondence School under the control of the Department of Education. This became the New Zealand Technical Correspondence Institute in 1961. Thus, at the same time, as the national system of technical institutes was established, the Technical Correspondence Institute became a national institute to provide instruction in vocational subjects by distance education methods.

In 1971, the Technical Correspondence Institute was separated from the Department of Education and placed under the control of a council representative of government, employers and employee organizations.

2. Target Population

(a) Numbers and Types of Students

Technical Correspondence Institute Enrollments, 1985

	Male	Female	Total
Level 3 ^a : Trade Certification Board	9,847	975	10,822
Authority for Advanced Vocational Awards	1,327	103	1,439
Others	4,136	2,031	6,167
Level 5 ^b : Trade Certification Board	1,523	12	1,535
Authority for Advanced Vocational Awards	3,491	951	4,442
Others	4,968	2,585	7,553
Total	25,292	6,657	31,958

^a Level 3 courses do not require Form 6 level for entry and do not go beyond Form 7 level.

^b Level 5 courses require Form 6 Certificate standard entry and go beyond Form 7 level.

(b) *Enrollment and Fees*

Students enroll in a wide range of vocational courses ranging from trade training for apprentices to advanced technology-oriented courses earning credit towards university graduation. Students are nearly all part-time and may enroll only when they are engaged or about to be engaged in an occupation related to the course required. Minimum age for enrollment is 15 and students are expected to enroll at one of the 22 technical institutes or community colleges around New Zealand if they live near it, can take the course they need there, and are not prevented from attending by their employment, child care or other difficulty. Annual fees are \$15 to enroll and \$10 per subject.

3. *Courses and Teaching*

The Technical Correspondence Institute provides courses in over 940 technical subjects. In technical education there are examining bodies which set national standards and prescriptions for many subjects and the Technical Correspondence Institute develops courses leading to these qualifications. In some cases, where there is no national examining authority, courses are designed to meet the requirements of the industry concerned. The entire process of course production, once the prescription is decided, is carried out by the Technical Correspondence Institute staff. A list of courses offered and enrollment numbers are shown in Appendix E.

Courses consist of 8-14 printed assignments with audiotapes or other additional material in some of them.

Students return work for marking by tutors and work through courses at the rate of about one assignment per fortnight. Block courses for practical work are required for many subjects and these are conducted by Technical Correspondence Institute tutors at the technical institutes around the country on a regional or local basis.

4. *Student Support Services*

Apart from tutor's comments on work, contact with students is through block courses or seminars. Telephone contact is also frequent. The Technical Correspondence Institute does not have specialist guidance staff or visiting teachers and student guidance is provided by tutors or senior staff.

For pre-enrollment support handbooks, a prospectus and course booklets are available as well as an enquiry service. The Technical Correspondence Institute is linked to other technical institutes by computer network and hopes to use this soon to provide course information for students.

5. Course Production

All new courses must have Department of Education approval and this is usually given only when face-to-face teaching services cannot meet a recognized need. The course writers are Technical Correspondence Institute tutors, and the Technical Correspondence Institute handles all phases of course production including final printing. The Technical Correspondence Institute has recently acquired word processor and photo typesetting equipment for course production and is developing a computer program to examine and improve the readability levels of course material.

6. Structure, Management and Control

The Technical Correspondence Institute Council was set up under the authority of the Education Act. The Council determines policy within parameters set by the Act and the Department of Education. Day-to-day running of the Institute is controlled by a Principal who is also an adviser to the Council. Within the Institute there are some 14 teaching departments. Tutors are divided among the departments and are mostly subject specialists responsible to course supervisors for their course writing and marking of students' work. The teaching departments are supported by a range of services including presentation editors, an audiovisual production unit, staff training and administrative services including typing, a reprographic unit, illustrations service, library, records and student enrollment and registry services, and assignment despatch.

7. Staffing and Staff Training

Tutors are nearly all recruited from industry or commerce and there is no requirement for pre-entry teaching training. The Technical Correspondence Institute conducts its own induction training for tutors and more specialized courses on writing, marking, assessment, etc. In addition, tutors take a block course at a National Training Unit for Technical Institute tutors on principles and practice of teaching. The training program extends over a year and in all takes up the equivalent of about three months full-time.

Further in-service courses are run regularly for all tutors who may also attend courses for teachers in other parts of the education service. At present the Technical Correspondence Institute is introducing a course on distance education for its tutors, an outline of which is shown in Appendix F.

Staffing levels are determined for tutors by ratios based on numbers of assignments to be marked and new courses to be written. Administra-

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tive staff are allocated to Technical Correspondence Institute by the State Services Commission on the basis of inspections and assessments of workloads. Staff entitlements since 1982 have been:

Staff Entitlement				
	1982/83	1983/84	1984/85	1985/86
Tutors	400.66	394.00	391.00	397.6
Administration	95.45	95.45	95.27	98.6
Total	496.11	489.45	486.27	496.2

8. *Finance and Budgeting*

Funding is based on grants made by the Department of Education based on estimates submitted by the Council and Principal. In addition to the grants the Council retains \$2.00 per student from fees collected and may use this as a discretionary fund for miscellaneous expenditure. Running costs in \$000, for the past four years were:

	1982/83	1983/84	1984/85	1985/86
Staff Salaries and Wages:				
Tutors	9,627	9,395	9,716	10,916
Administration Staff	1,245	1,288	1,402	1,652
Operating Costs	845	862	889	967
Capital Costs	18	8	145	133
Total	11,735	11,553	12,152	13,668

9. *Evaluation*

- (a) The results of public examinations conducted by the various authorities show that Technical Correspondence Institute students usually have a distinctly higher pass rate than the average for all New Zealand students.
- (b) *Costs:* The per capita costs for Technical Correspondence Institute students are estimated for the last four years to be:

<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>	<u>1985/86</u>
\$395	\$390	\$410	\$430

- (c) The Technical Correspondence Institute has conducted research on some aspects of course design. For example, it has undertaken work on the readability level of assignments. At present a computer-assisted technique of checking reading difficulty levels is being developed.

C. Massey University Centre for University Extramural Studies

Massey University is one of the seven independent universities in New Zealand and the only one which provides a national distance teaching service. Unlike the other two national distance education centers Massey is a dual mode institution with teaching for internal and external students being undertaken by the same staff.

1. Brief Historical Outline

Until 1960, each university made its own arrangements to provide for external or extramural students. There was no uniformity and the provision made for distance teaching at this level was sparse and patchwork. In 1960, a correspondence service was started for extramural students in all parts of New Zealand from Palmerston North by a branch college of Victoria University of Wellington. In 1963, this branch College was merged with Massey Agricultural College and this became the present Massey University. Since that time, the enrollment of extramural students has grown from about 500 to 12,000 or more and the courses offered have risen from four to about 300 with undergraduate and graduate courses included. Since 1979, some degree courses can be completed entirely extramurally.

2. Target Population

(a) Numbers and Types of Students

Massey University Centre for University Extramural Studies
Enrollments, 1985

	Male	Female	Total
Postgraduate Diplomas			
Business	113	51	164
Education	192	256	448
Health	60	44	104

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Science & Technology	37	14	51
Social Science & Management	204	96	300
Total	<u>606</u>	<u>461</u>	<u>1,067</u>
Undergraduate Diplomas			
Business Studies	281	166	447
Nursing Studies	30	594	624
Police Studies	47	6	53
Total	<u>358</u>	<u>766</u>	<u>1,124</u>
First Degree & Certificate of Proficiency Courses			
Agriculture & Horticulture	108	79	187
Arts	1,024	3,232	4,256
Business Studies	1,227	950	2,177
Education	244	600	844
Science & Technology	229	203	432
Social Science	<u>310</u>	<u>553</u>	<u>863</u>
Total	<u>3,142</u>	<u>5,617</u>	<u>8,759</u>
Grand Totals	4,106	6,844	10,950

See Appendix G for employment categories of students.

(b) Enrollment and Fees

Entry to the Centre for University Extramural Studies (as to the full-time university program) is restricted to students under 21 years who have qualified for entrance to a New Zealand University. Over 21 entry is virtually open although students are required to show that they are not able to attend a local university part-time because of their employment, child care or other reasons. About 99 per cent of the external students are part-timers. Annual fees charged are the usual tuition fee of \$36 per subject plus \$10 per year for external students. There are constraints on the enrollment of students from overseas.

3. *Courses and Teaching*

Once an extramural course is approved, the teaching department is responsible for its production and the CUES for getting the assignments and other materials to and from students for marking. Thus Massey University is a dual function institution with the same staff engaged in both internal and extramural tuition. Most students take courses leading to a Massey University degree or diploma but a growing number are taking courses which are recognized as components of qualifications

being sought by students in some other institutions, such as a teacher's college in Auckland, or the University of South Pacific. Students all prepare for the same examinations, or other assessments, set by the University for its internal students. Printed assignments are the main medium of instruction but increasingly these are augmented by audio and videotapes. Massey University is developing a TV studio which it is expected will be capable of broadcasting lectures on the national TV network before long.

4. Student Support Services

- (a) Regional tutors are available for many students for face-to-face tutorials or telephone consultation.
- (b) University staff, often in association with regional tutors, may conduct off-campus seminars in some centers round the country.
- (c) Telephone tutorials using conference links have been used by some teaching departments.
- (d) Vacation courses are held on campus for every course, either at Massey or one of the other universities.
- (e) Guidance is provided in the form of printed pre-enrollment brochures on a variety of topics, letters or interviews for students with CUES staff.
- (f) An Extramural Students Society receives funds from student fees to support a network of volunteer members around New Zealand from whom new students may obtain information and advice. This group employs a liaison officer and contributes to the University Library services for extramural students.

5. Course Production

Courses are produced by university teachers who can obtain consultant assistance from an Education Resources Officer on teaching methods and technology. The extramural courses are usually a printed version of the course that their author teaches internally.

6. Structure, Management and Control

Massey University has its own governing body, the University Council, which authorizes its Professional Board to approve courses both internal and extramural. This approval must meet the endorsement

of the Universities Grants Committee, which is the national body responsible for allocating government funds to each university. Through this arrangement, the national interest in the development of the Massey University service to extramural students in all parts of New Zealand is represented and promoted.

7. Staffing and Staff Training

The CUES has a staff for administrative purposes including record keeping, course production and despatch, and organizing seminars and on-campus courses. The teaching is done by university teachers of internal students together with a number of part-timers for assignment marking, off-campus support, etc.

8. Finance and Budgeting

The amount of staff and other expenditure allocated to extramural students is not reported separately from the total University expenditure.

9. Evaluation

- (a) In Appendix H the withdrawal and examination passes are shown for 1982. The chart shows a 30-35 per cent rate of withdrawal for that year.
- (b) Those who take examinations compare well with internal students taking the same examinations. The rates are shown for the period 1972-1982 in Appendix I.
- (c) In Appendix J the occupational categories of external students are shown from 1971-1983. The pattern shows changes related to the growth in range of courses available.

CONCLUSION

Each of the three major distance teaching institutions in New Zealand has developed to supplement or expand existing facilities and to provide a service for people not able to obtain access to an existing institution. There are few examples of a distance course established to provide something not available in face-to-face mode anywhere else in the country. Over time, the institutions have grown significantly and added new services as needs were recognized. The overall growth of these services is shown from 1976 in the table in Appendix C.

D. Strengths and Weaknesses of the National Institutions

1. Strengths

- (a) *Flexible growth*: The institution have all evolved to provide services for clearly defined populations of students but have also been able to adapt to meet the needs of further groups or categories as they are defined or identified. Altogether there is a full coverage of the range of the education system with each institution providing a separate service and avoiding replication, overlap or unproductive competition for student enrollments.
- (b) Finance and control is in the hands of the state and is provided for by statute. This ensures that services are not dependent simply on commercial profitability and that there can be investment to meet perceived needs on a national scale. It also ensures that there are national standards and course requirements maximizing the profitability of the tuition and qualifications available. This pattern provides economies of scale affecting the cost of courses, and of the administrative and other support systems.
- (c) Target populations can be provided for in terms of national as well as local needs. The national aspirations of providing equality of opportunity and access to education are enhanced by these institutions for the isolated, handicapped and unemployed, for women, for early leavers from the school system, for the itinerant, for people who need specialized tuition not otherwise available, for cultural differences and for supporting the work of other institutions.
- (d) Delivery systems are designed to make the best use of available communications nationwide. They make for a low per capita cost, reliable, widely available service, with a minimum of expense to the student.
- (e) The importance of good course design is being recognized by growing efforts to produce courses incorporating sound distance teaching principles.
- (f) There is growing recognition of the beneficial effects on student motivation and productiveness of soundly-based student support services.
- (g) On the whole, distance teaching in New Zealand has a relatively high input of teacher time and a personalized supportive approach to marking student work.

2. Weaknesses

- (a) For all institutions there are high costs in providing practical work, face-to-face, contact, opportunities for students to work in groups, e.g. in drama, music, etc. and a lack of technology to help overcome these problems.
- (b) The system is labor-intensive and requires more staff time than is available for tasks such as course development and revision, student support services, evaluation and research.
- (c) Students at all levels, with limited reading or study skills, have difficulty with written assignments. This is evidenced by dropout rates which are not unusual in distance education, but wasteful nonetheless.
- (d) There is no formal training in New Zealand for distance education and most of the distance teachers are not teacher trained prior to appointment except in the Correspondence School. The first step to overcome this have been made by Technical Correspondence Institute and further developments are needed.
- (e) Linkages with local support services are insufficiently developed. The only national coverage is thinly spread by the Correspondence School's nine resident teachers. A national system of local or regional centers for distance students would be a major advance, towards coordinating and extending student support.
- (f) There is a persisting assumption that distance teaching is only a second best substitute for face-to-face tuition. As a result, there is a national plan for distance education and only limited informal coordination in the development priorities and methods of the three institutions.
- (g) National prescriptions and examinations help to ensure recognition of the standard of tuition in distance teaching but rapid changes in prescriptions or other requirements often occur too quickly for courses to be revised promptly enough. Alternatively, out-of-date examinations and prescriptions can sometimes lock the distance teachers into national courses they would and could otherwise improve.
- (h) Mainly because of lack of funds the institutions have been slow to acquire new technology and there is a need in all of them for more use of computers in course development, teaching, record keeping and communication and for rapid advances in the use of telephones, radio and audio and video production.

E. Likely Policies in Development of the Major Institutions

Government policy on education does not say very much about distance education but references in a briefing paper prepared by the Department of Education for the Minister in 1984 include the following options:

- (i) Increased adult part-time enrollments;
- (ii) Production of Educational TV and videotapes;
- (iii) Increased student support services;
- (iv) Increased multicultural education at a distance;
- (v) Extending the distance education support services offered to students in other institutions, e.g. schools, prisons, armed forces, parent centers;
- (vi) Providing consultant services to other distance teachers in official projects, e.g. driver education; and
- (vii) Extending distance teaching services available to rural people.

F. Likely Targets for Development

In improving the existing services or in expanding them to pursue the policies indicated above or in overcoming the weaknesses already indicated, there are several clearly identifiable priorities for attention. The following are among these:

(a) Improved staffing in the form of:

- (i) a better ratio of staff to students;
- (ii) formal training in distance education; and
- (iii) the development of more specialists in several areas of student support notably, communication technology, course production, evaluation and data processing, student visiting and counselling public relations and advertising.

(b) Research and Evaluation on Distance Education, especially study of:

- (i) student populations and their character;
- (ii) the design of distance education systems including plant and equipment;
- (iii) distance teaching outcomes and the causes of dropouts; and

- (iv) cost-benefit studies of delivery, support and other distance teaching systems.

(c) *Improved technology, in particular:*

- (i) more TV and video facilities;
- (ii) more computers and word processors; and
- (iii) improved communication services.

FURTHER EXPANSION OF DISTANCE EDUCATION

Apart from the three major distance education institutions, there are other distance education programs, both state-supported and privately-funded; both formal and non-formal.

A. Formal Education and Staff Development

The Advanced Studies for Teachers Unit offers distance correspondence courses for practising teachers to improve their qualifications. Formerly based in the Correspondence School, since 1984 it has been attached to, and administered by the Palmerston North Teachers College. The courses are approved by the Director-General of Education, who approves all postgraduate requirements for teachers. Teachers leave Teachers Colleges with a *Diploma in Teaching*, a qualification which can be improved to a *Higher Diploma in Teaching*, and further to an *Advanced Diploma of Teaching*, both of which improve salary gradings, and which can be studied at a distance through this Unit.

The Unit also offers a *Trained Teachers Certificate* to enable practising teachers who do not hold a *Diploma in Teaching* to qualify under state regulations as a trained teacher. (The integration of many private schools into the state system in the late 1970s greatly increased this category of student temporarily.)

More recently a number of special target groups have been reached with the offer of distance courses in *Adult Education Early Childhood Care and Education* (aimed at parents and volunteers, as well as those employed in the field), and in *Social Education and Training of the Handicapped*.

Annual changes range from approximately \$15 to \$40 according to the course, and the number of papers, attempted.

The small group of full-time tutors is supplemented by a team of lecturers based on the five other Teachers Colleges, who share in the

preparation, marking and examining of courses. Local group work is encouraged both at the colleges and in the smaller centers. There are 5,000 paper enrollments in 1986.

B. Non-Formal Education

Educational broadcasting is the main source of non-formal education at a distance.

(a) Continuing Education Unit of Radio New Zealand

This comprises two functions: educational broadcasts for children, and non-formal continuing education for adults.

Of the 55 minutes dedicated to educational broadcasts for children every day of the school week, one 20 or 40 minute program is presented daily by the Correspondence School for distance students; two other weekly current affairs programs are produced by Radio New Zealand for all schools (one is of 20 minutes aimed at 6-10 year olds, and the other of 20 minutes for 8-12 year olds); and another daily program is designed for pre-school aged children at home. Some of the programs for pre-schoolers are also available on cassette.

The Continuing Education Unit aims to deal with topics for adults non-formally in the following areas: Maori and Pacific Islands issues; family education and human relationships; health; industrial education; leisure; rural education; social and community education; and vocational issues.

A small team of producers research a topic and produce a series of 15 to 20 minute radio programs for the national non-commercial network, supported by a resource pamphlet containing reading lists, a summary of the content of the programs, and suggestions for further study in the area.

The programs are all available to listeners who supply a cassette. For most of the major topics dealt with, two to three-minute programs are also produced for broadcast on the regional commercial Radio New Zealand stations. Frequently the Unit involves relevant agencies which ensure that further educational opportunities on the topic are made available in the community.

(b) Television New Zealand

There is no similar Unit operating in Television New Zealand. Many of their general and special interest productions are, however, are

of a broadly educative, if non-formal, nature. An international award-winning team has produced many high-quality wildlife documentaries, the Children's and Young People's Department produces magazine programs for pre-schoolers through to school-leavers, and other programs document developments in, for example, science, technology, and farming.

In 1982, a pilot series of TV programs was broadcast for distance pupils of the Correspondence School. Television New Zealand and the Department of Education are planning further educational projects which will include programs for Correspondence school pupils.

(c) Other Projects in Educational Broadcasting

Other ventures in educational broadcasting have been rare. Massey University abandoned an experiment in radio broadcast support for its students in the 1960s, and has found that audio cassettes can be used more effectively.

The University of Otago Radio Unit, over four years, regularly produced two programs a week, for broadcast on Radio New Zealand's Otago and Southland regional non-commercial breakouts. These programs ranged in content from items of general educative interest arising from the skills and resources of University staff, to a series of programs designed by University staff as support to teachers and students in specific areas of the secondary school curriculum (which were later assembled as boxed kits with at least print support for the audio-cassettes). The University of Waikato operated similar program. These ceased in 1986 when a program Campus, from each of the six University centers in turn, was established by Radio New Zealand to be broadcast nationally, containing items of general educative interest from all the tertiary institutions in the region.

The Christchurch Polytechnic has applied for and is likely to be granted, a warrant to broadcast full-time as a community access distance learning station from 1 April 1987, having broadcast seven times so far on temporary warrants. The wider Canterbury region will be able to receive these broadcasts which will originate from Christchurch. As well as providing distance education programs to the community, the station will serve to train broadcasting students based at the Polytechnic.

C. Non-Governmental Agencies

These provide a number of services, varying in scope and scale.

(a) Trade Union Postal Education Service (TUPES)

TUPES offers correspondence courses to members of affiliated Trade Unions and their families on general topics (for example: English, Maths, Home Ownership, Economics, Psychology, Women in New Zealand Society) and in trade union education (for example: Trade Union History in New Zealand, Industrial Relations, The Union Delegate, The Impact of New Technology). These courses are designed to complement, as well as in some cases, supplement, Trade Unions' own education programs. Currently, TUPES, staffed by two people and sharing an official in the National Council of Adult Education building, offers courses to 1,000 people a year, at a cost to the student at \$5 a course. Additional funding comes from Trade Union affiliation fees and from the Department of Education. It has been proposed that TUPES should merge with the Trade Union Education Authority recently established by the fourth Labour Government.

(b) Marriage Guidance Council of New Zealand

The Council conducts two correspondence modular courses of at least two-and-a-half years' duration (supported by local group supervisors, practical fieldwork, and residential schools); one for marriage guidance counsellors, and another for tutors in human relationships. The selection process is stringent. In 1986, there are 44 tutor trainees and 128 counsellor trainees. Successful candidates pay no fees, as training costs are met by the Department of Justice. The courses are written by specialists on contract, with the curricula being approved by a national advisory and coordinating committee.

Both TUPES and the Marriage Guidance Council programs are examples of distance services which have some support from government funding.

(c) Professional Societies

Some professional societies currently offer distance programs as a means by which their members can continue their education in their chosen field or improve their qualifications. Others are continuing education programs, but are considering extending these to cover students at a distance.

In the former category, a notable example is The Insurance Institute of New Zealand, which offers correspondence courses to improve qualifications, working towards an Associateship of the Institute in Life, Fire and Accident, or Marine Insurance, for its members and members

of affiliated Institutes (The Insurance Institutes of Fiji, Hong Kong, Papua New Guinea, Thailand Insurance Institute, and the Insurance Vocational Institute, Indonesia). Members of these Institutes pay \$22 per subject (non-members \$40) examination fees, and a further \$30 per subject as tuition fees. A personal tutor to advise and assist each student supplements the correspondence mode.

Professional engineers are served by access to audio tape copies of on-campus courses at the Engineering School of the University of Auckland. Other on-campus courses are available for sale in written form, in architecture and computer.

The Pharmaceutical Society of New Zealand is at present investigating continuing education at a distance for its members, particularly to give graduates a coordinated program of guided experience in the various aspects of the profession.

(d) National Centre for Religious Studies

This is an example of another type of non-governmental distance program. Set up by the bishops of the Catholic Church in 1975, the Centre caters for 500 enrolled students, coordinating a three-year extramural *Diploma in Catechetics and Religious Studies* for adults: 85 per cent of the students are lay people, and only 15 per cent of these are teachers, even though the Diploma is regarded as qualification for teaching religious studies in Catholic schools. The primary mode is correspondence, but this is supported by a regional tutor for each student, and two residential schools for each course per year. The Centre also offers a shorter course in *Christian Family Life*.

D. University Extension Programs

Until 1961, the universities of New Zealand were administratively under the single academic structure of the University of New Zealand. Between 1947 and the dissolution of the University of New Zealand, a national and regional system of adult education was separately funded by the Government. Staff were employed by regional councils, and attached to the appropriate regional university college. Most of the work concerned basic adult education subjects, such as music, drama, home science, economics and current affairs. Tutors travelled to take classes in country towns.

But through the same period, each of the university institutions also offered a measure of extramural study for degree courses. Under certain circumstances students were allowed exemption from lectures to follow study patterns which were the responsibility of the student working to

the syllabus of the course alone. The formal examination at the end of the academic year ensured that the standards were the same as obtained in internal classes. In some instances formal class teaching was organized to assist extramural students; one such formal provision still exists in Invercargill, where extramural students of the University of Otago take classes in the Community College under a linking arrangement.

The decision to make Massey University responsible for extramural study, taken in the early 1960s as a consequence of the dissolution of the University of New Zealand, affected the provision of tutor-based courses under the regional councils of adult education, and greatly reduced the number of students studying degree courses under individual college extramural statutes. The growth of the Massey Centre for Extramural Study has been described above; one of its effects was to change the nature of off-campus provision made by the other university institution. Now, each New Zealand university will accept study at Massey as an acceptable part of its degree structure, although regulations differ between the different institutions. This "registration for tuition" from Massey allows a student to complete a degree (or take parts of a degree) at a distance not only from Massey, but also from the awarding institution.

(a) Hughes Parry Report

The devolution of the University of New Zealand into seven separate university institutions took place as a result of the last intensive study of the New Zealand higher education system, by the Hughes Parry Committee on University Education. The Committee took evidence in 1959, and its treatment of adult education was incidental to the wider purpose of surveying the whole of university education in New Zealand. Its recommendations included an expansion of university extension-type courses, related to New Zealand's social and economic, as well as cultural development. It stressed the need for professional refresher courses, and recommended that courses should be instituted leading to certificates or diplomas, at a lower level than that required for a degree, but stemming from existing university programs, and suitable for groups whose degree of skill does not require full courses of professional training.

(b) Certificates

The major result of these recommendations was the development of a new level of courses through the 1960s and early 1970s, at first largely offered as on-campus classes but in certain significant instances

developed as study patterns for adult students at a distance from the university. An early, and instructive, example was a Certificate in Early Childhood Development offered by the Massey University Department of University Extension (and now absorbed in the Massey extramural program). Another course developed as a result of these initiatives, and in 1986 offered as a distance course, was Otago University's Certificate in the Theory and Practice of Social Work, designed for those involved in social work at a professional or serious voluntary level.

(c) The Massey Diplomas

Much of this non-degree teaching became concentrated in the overall provision of extramural study from Massey University. Originally, Massey provided the off-campus equivalent of a system of part-time university study that had been available to all who lived in a university town. A student was (and still is) "exempted from lectures", receiving correspondence materials instead. Assessment is provided throughout the course by the submission of assignments and the external student sits the same examination as the internal student.

But while the original mandate was for one university to facilitate part-time study for the purposes of starting a degree (until recently there has been an insistence that a substantial proportion of study must be completed on-campus), or for completing a program of study with lower-level or subsidiary courses, much of the Centre for Extramural Studies' present enrollment is in groups of courses which make up a diploma package. The Massey correspondence system has been used to offer a continuing education program based largely on selections of undergraduate courses.

In regulatory terms these are postgraduate diplomas open to university graduates wishing to broaden the base of their initial education. In practical terms, a need which was foreseen by the Hughes Parry Report has been incorporated within a system of off-campus correspondence teaching which was originally designed to make university part-time study available outside the traditional campus towns. Massey University has been the only university institution able to fund such continuing education programs through the block grant system of university funding. Other institutions have offered continuing education programs only within the predominantly user-pays framework of specialist continuing education department. (Another aspect of this use of the correspondence teaching system to deliver continuing education has been the abolition of such a specialist department at Massey University.)

(d) Courses

From time to time other university institutions have offered distance education programs, through funding arrangements for continuing education. Two examples from the University of Otago are:

- (i) the correspondence program in computer basic, which introduces the owner of a home computer to programming. This has been modelled on the course developed by the BBC in conjunction with a series of television programs in computer awareness.
- (ii) the music correspondence program, designed for teachers of music, which uses mastery-learning techniques to first refresh, and then extend, knowledge in the theory and language of music. The average enrollment lasts for over two years; and there are no examinations (except that it is possible to use the course to study for examinations of the Royal Schools of Music or Trinity College at licentiate level).

(e) Distance Teaching as a Tool in Other Programs

In some instances elements of distance teaching are used in more conventional teaching programs. Perhaps the best New Zealand example of this is the use of distance teaching techniques by Lincoln College as a part of the Diploma in Agriculture, and for some aspects of the Bachelor's degree. Students are required to spend a good deal of time on field placement – throughout the country. During these placement periods the students are under the supervision of a lecturer responsible for distance teaching, and a tutorial program continues even though the students are no longer on-campus. Up to 1,000 students are tutored through this system each year.

E. University of Otago Open Studies Program

(a) Working Party Report on Distance Education

In 1980, a working party set up by the NZ Director-General of Education reported on Distance Education after reviewing practices in the country over all the educational levels, and particularly, the problems which still remained to be solved.

One of the recommendations was that the University Grants Committee (which succeeded the University of New Zealand) should examine the timing of the entry of another university into the field of

distance teaching. It was expected that the appropriate institution would be located in the South Island. The University of Otago had already signalled (through its Quinquennial Commission for funding) an intention to examine this question.

(b) Needs

In its examination, the University of Otago noted that New Zealand has been well served for many years in the provision of university educational opportunities. Open-entry policies have made it possible for all who meet reasonable criteria to enroll; and part-time study provisions (together with the correspondence version offered by Massey University) have encouraged enrollment. However, it had become increasingly apparent that New Zealand had fallen behind many countries in the provision of open access university education. This is a concept that assumes that a motivation to learn is usually more than sufficient for entry to many high-level programs if the teaching system is willing to meet learners' needs rather than insist upon the potential student re-entering the traditional educational system.

While initial education for many professions will remain a basic part of the university teaching commitment, there is a persistent demand for recurrent and post-experience education which cannot be ignored. All parts of the education system, and many professional societies are involved, but universities have an ability to apply research-based information which is unique. There are many examples: the requirement of many North American states for members of different occupations to continue their university studies in order to maintain registration, the involvement of universities in cooperative research and training projects with companies and corporations in both America and Europe, and a recent paper issued by the British Department of Education and Science outlining proposals for the increased participation of universities and colleges of higher education in the provision of continuing education. Changing attitudes to work and leisure having an increasing impact on the types of learning opportunities required by the community, and provide a further impetus to expanding university extension provisions.

The rapidity of technological change places an increasing pressure on universities to provide further education consisting of learning experiences which are significantly different from those at the core of university teaching. In almost every case it is necessary for such programs to be interdisciplinary, aligned to problem-oriented or thematic objectives, and available where they are needed, when they are needed, and in an appropriate form. Distance teaching techniques are required to take programs to the areas of need.

But it is not sufficient to impose a non-traditional requirement on structures which are not designed to meet new, and changing, needs with a suitable response. The response of the University of Otago has been the establishment of a new open study structure to facilitate the definition of appropriate teaching programs, provide access to teaching resources and maintain the systems necessary for a different teaching method.

(c) Methods

The system which has been put in place, at first on a trial basis, now in a limited regional context, is based on teleconference centers. These allow small groups in different towns to take part in a single interactive session. The basic element is a high-quality audio system which has been designed and built by the University in close cooperation with the NZ Post Office. Slide projectors at each site are interlocked so that a lecturer can control all projectors from whichever site is being used to convene the class or meeting. The third element of the teaching system is the traditional "course book" or papers prepared for the individual student.

Rather than being designed for basic individual learning, the teleconference session aims at providing for small groups located in different towns to meet together, share their own experience, and make use of appropriate resource persons anywhere in the country (or indeed further afield – input has been arranged for particular sessions from Melbourne, Rarotonga, San Francisco, London and Jerusalem).

One of the major benefits of the system is the ability to work with a professional group to design aspects of the learning system in cooperation with the group. All adult (as against undergraduate) students respond better to a teaching system that recognizes that expertise may reside in the experience of the student group, and this often complements the academic program in many different ways. In a totally practical framework, short student papers on aspects of the work to be studied are an excellent teaching device and allow a greater involvement of the student group. Learning, at a post-experience level, is often a two-way process.

An important aspect of the system is the ability of small groups to work together themselves, as a part of a wider program. Several professional groups have found this an unexpected additional benefit; a local group dynamic is often a useful adjunct to professional development courses.

Immediate contact with the lecturer/resource person allows another dimension to the design of the course. At the simplest level, the system

provides a means for assignments to be discussed after assessment. Since the most difficult aspect of studying at a distance is always the isolation, the seminar aspect is obviously important.

Initially the University is concerned with the national development of an audio system, together with a limited provision of slide projectors and video playback equipment. A second phase of network development will address computer technology at an appropriate future date.

While the most widely-publicized applications of telecommunications in education have been dominated by television, recent research has directed increasing attention to the effectiveness of audio systems which use equipment specifically designed for audio teleconferencing. Visual support is supplementary.

When computerized graphics are developed to the appropriate technical level they will be added to the proposed national system as funding permits. In the first instance such systems will be concerned with providing an "electronic blackboard" to enable the teacher to display at all locations the material normally written or drawn on a classroom blackboard. A prototype unit has been constructed. Microcomputers installed at each terminal location will eventually allow a wide range of materials to be stored prior to a teaching session, and either displayed at the appropriate time by the lecturer, or printed locally. Such a system has also been tested under experimental conditions.

At this stage video material is needed for many of the courses and videocassette recorders are used. Material is copied into videocassettes and set to the teaching centers in advance of the presentation. When the scale of teaching has reached a significant level it is expected that negotiations can be undertaken with Television New Zealand to broadcast material on one of the national carriers for automatic recording at the remote terminals. Playback would be at the control of the lecturer.

(d) University Grants Committee and Government Approvals

The University of Otago's proposals were incorporated in its submissions to the national University Grants Committee for implementation in the 1984-89 quinquennial period. As a part of the quinquennial settlement, funding has been made available both in the block grant which the University receives from the Government, and in a supplementary equipment grant. Such funding is subject to Government approval within the context of national university funding up to 1989 and approval was finalized in late 1984 to begin in the financial year beginning 1 April 1985.

(c) Elements of the Study Center Approach

The regional network of study centers that had been established during the experimental stages now provides a teaching system that covers the university district in the southern half of the South Island. There are seven permanent centers, and subcenters can be added as it is appropriate to the course or program. Each center is maintained by a local coordinator who supervises enrollments, equipment and the course material prepared in the University and distributed for the use of the group.

In 1986, planning is underway to establish a national network of twenty centers in addition to the regional network, and discussions have been undertaken with a variety of institutions with a view to the development of additional regional networks in various parts of the country.

The national network is planned to incorporate up to three separate terminal sites at each location. This will allow a degree of flexibility in the scheduling of courses, and maximize the use of the time available. The priority in 1986 is the establishment of sites readily available to medical and allied health professionals. Several program developments build on the concentration of faculty and other academic resources in this particular area at the University of Otago.

In the program terms, each regional study center offers courses for university credit, courses designed to assist professional development, and courses of general continuing education. The national network will repeat this basic pattern.

It is expected that the national network will work in cooperation with a range of different educational institutions and also with different professional groups. One of the major aims is to provide a system of high-quality continuing education that remains under the academic control of the appropriate body, regardless of the management of the teaching system itself. While university teaching resources will be used where these are appropriate, it is assumed that other appropriate teaching resources reside in the wider community. The study center approach, based on a developing electronic network, assumes a cooperative approach to teaching.

Elements of Cost Involved

Network charges: A rental is paid to the common carrier for the lease of the networks used. Additional rentals are levied for the addition of temporary sites.

Course costs: In common with other forms of distance teaching there is a course development cost (staffing and materials), and the costs associated with print, slide and video production. These are variable costs, related to the planning of individual programs or courses.

(f) Pilot Programs in 1986; Projections to 1989

In 1986, two undergraduate level programs have been offered on the regional network, one in social work, and a second in the humanities. In addition professional programs have been offered for general practitioners (medicine), nurses, physiotherapists, and teachers.

As a pilot for future developments, a postgraduate diploma in Clinical Dentistry began in March, with a student group situated in Auckland.

Projections to the end of the quinquennium (1989) allow for the enrollment of over 200 full-time student equivalents in courses for credit (post-graduate and post-experience). This will involve over 1,000 course enrollments in this mode. In addition, professional and cooperative ventures with other institutions will continue to play a significant part in the use of the system by a wide range of student groups.

NEW ZEALAND DISTANCE EDUCATION: SCOPE FOR INVOLVEMENT WITH INTERNATIONAL AGENCIES

A. The Major Institutions as a Development Model

For nearly 150 years the major tool of the distance teaching institution has been the postal service. Material from the teacher has been delivered; and assignments from the student have been returned. The postal system has enabled what has been described as an "industrialized" system of teaching and learning. As reprographic processes have developed, it has been possible to pay more and more attention to the quality of the materials sent to students. Duplicators have given way to off-set presses, and computer-set print now makes the production of teaching materials even more effective. New Zealand's major distance teaching institutions have consistently refined the possibilities of this print-and-post technology, on the basis of the following principles:

- (i) Teaching is based on a communication system which can

effectively, reliably, quickly and cheaply reach the target populations.

- (ii) Course materials are well-designed and presented, reducing to a minimum the need for face-to-face support or follow-up procedures.
- (iii) Peripheral materials (including slides and tapes) are introduced only where the delivery systems can cope with them, and when most students have the means to use them. Printed materials are paramount.
- (iv) New target populations and their needs are regularly identified by research, surveys and policy reviews.
- (v) Procedures are in place to monitor teaching activities and evaluate learning outcomes at every stage of the operation of each of the major distance teaching institutions.
- (vi) Each institution recognizes the need for effective staff training in distance teaching.
- (vii) Support services are in place for students, appropriate to the different teaching circumstances of each institution and the needs of the students.
- (viii) Resources in the local areas where students live are coordinated with the resources of the teaching institutions.
- (ix) Policies with regard to staffing, course design, and assessment are promoted in order to maintain and enhance the status of distance education within the total educational provision of the country.
- (x) Students are encouraged to be involved in and identify with the teaching institution as a major motivating force for the student, and as a matter of public relations for the institution.
- (xi) Distance teaching in New Zealand:
 - (a) provides access to education for disadvantaged groups;
 - (b) supports institutions with limited resources of their own;
 - (c) responds quickly to new developments and curriculum changes;
 - (d) delivers services quickly to large numbers of student;
 - (e) overcomes shortages of teachers in key areas;
 - (f) replaces conventional educational services in emergencies; and
 - (g) provides expertise to mass media educational services as required.

At the school, the technical, and the university levels, a comprehensive system of distance education complements the services of

the conventional institutions and makes provision for students who take advantage of the state-funded educational system. Within a small country, this comprehensive system provides a number of practical models for development.

B. Technical Developments in Distance Education

If current practices in distance education are directly related to the provision of reliable postal services, and the design of courses has been enhanced by better and more reliable means of printing, it follows that as new technologies become widely available their usefulness in distance education must be constantly evaluated.

Over the last 20 years television has been expected to play a major part in changing teaching and learning methods, but the initial promise has proved less than impressive in most instances. There can be no doubt that video technology assists in the presentation of material, but the essential element of interchange between the teaching system and the learning system is absent from most educational television. As with audiotapes before, video technology will provide a useful and convenient means of course presentation and allow increasing sophistication in teaching systems that primarily use other means to bring the learner and the teaching institution together. Neither audio nor video will completely replace what Homberg (1981) has called "guided didactic conversation". It is this interactive nature of distance education which distinguishes formal systems from the wide range of informal educational opportunities that nationwide radio and television broadcasting provide in the New Zealand context.

The development of computer technology and the rapid movement of this through the cheap and reliable systems, will probably have much more impact on distance education. Most educational institutions in New Zealand have pilot projects of one sort or another in the use of computer-assisted instruction. Even more are using computers in the administration of education. It is expected that over the next few years many of these developments will begin to provide a means to connect teacher and learner in formal distance education projects.

(a) PolyOne Project

An important development in recent years has been the design of a computer system, with related educational programming, specifically for the New Zealand educational market. The project was based at the Wellington Polytechnic, and consisted of a central storage capacity, together with up to 16 monitors in a daisy-chain arrangement. A teacher

can command the first monitor in the chain and take a class through a lesson, or by turning a key transform the system into a group of independent learning stations. Programming for the pilot stages was undertaken by a commercial firm, Progeni Systems Ltd. The development of the PolyOne was seen as a means for, firstly providing schools and colleges with compatible equipment for computer applications in education, secondly for making the computer system a part of any appropriate teaching or learning situation, thirdly for encouraging teachers to program their own lesson material, and finally, through networking, to allow the sharing of computer education between schools. The schools system was not adopted by the Government for provision throughout the country; instead individual institutions have purchased microcomputers from the wide and varied range of imported models available. The Poly system has been taken over by Progeni Systems, further developed for educational purposes, and produced in the main for the export market.

(b) Teleconference Techniques in Distance Education

An earlier section of this paper has described a developing system of distance education based on teleconference centers. New Zealand has an extensive telecommunications network which is, at present, undergoing considerable technical change. Trunk networks are being extended by means of the application of fiber optic cable to enhance capability, and in some cases microwave networks are being upgraded. These extensions are making more channels available for a wider variety of purposes. At the same time switching capabilities are being extended. Computerized switching not only improves the services available on the telephone network, but also allows a greater range of data applications. A new packet-switching network is also available. New Zealand is a part of the worldwide telecommunications network through Intelsat terminals at Warkworth, and the common carrier - presently the NZ Post Office, although recent government announcements indicate that a separate Telecommunications Corporation will be established in the near future - is also establishing Intelsat terminals at Wellington and Christchurch. There are plans to use some satellite capacity on Aussat (the Australian domestic satellite).

There are four basic types of teleconference of interest to the development of distance education:

(1) Telephone Conference

The most common carriers offer a facility to bridge together a number of telephones so that a group of people may talk together. In

New Zealand the present service offers a maximum of ten telephones. If one or more of the linked telephones is designed as a loudspeaker instrument it is possible to have a group of people at that location. A telephone conference simply links together a number of locations using the normal telephone network. Voice switches must be used in the circuitry (usually in the common carrier's bridging equipment, but also in the terminal instrument for loudspeaking telephones). These cut-off received sound while sound is being transmitted, in order to prevent feedback and eliminate ambient sound. The disadvantage of voice-switched systems is that clipping of speech occurs, especially when several terminals are in use. Structured meetings are easily handled, but dialogue between groups of students (and their teachers) is difficult.

(2) Audio Teleconference

The best results, in educational terms, are achieved when specially-designed equipment is used to create a network of teaching centers. These may be either hardwired (permanently bridged together) for optimum speech quality, or connected together through the switched network. Hard-wired networks have send and receive channels, and the terminal equipment allows high-quality audio without distortion or ambient sound. Various devices may be used to switch off the microphones not in use at any given point; the simplest device is to make each a "push-to-talk" model so that a student joins the class by placing a finger on a button. The teacher/lecturer/discussion leader/ chairperson may have a continuously open microphone to operate in a "broadcast mode" where this is appropriate. Terminals joined through a switched network need voice-switching protocols, and audio quality suffers as a result.

(3) Video Conferencing

An expensive version of the teleconference allows video and audio connections between a number of sites. Two-way video is expensive in its use of channel space, and multiple sites need to be either specially designed (using fiber optic cables or microwave), or linked by satellite. It is problematic whether the expense of such systems justifies the need to add full-frame, live video to a teaching session. Freeze-frame video can be carried on a (separate) telephone line and provide still pictures from the teaching center to the remote sites; some teaching institutions have experimented with a broadcast satellite video program emanating from the teaching site and audio conference facilities to bring the student body into contact with the teacher in real time.

(4) Computer Conferencing

It is also possible to join a group of computers together either in real time or in delayed time so that teachers and students may conduct a screen dialogue. Such applications will be important aspects of some forms of distance education in the near future. Computer technology can also be used in conjunction with the telecommunications network to deliver materials to distant students through videotext. As hardware becomes increasingly available and more standardized, data transfers to the distant student and back to the teacher will become an attractive alternative to the postal system.

It is possible that the biggest advances in distance education technology will involve combinations of the different sorts of teleconference. Perhaps the most important of these will be a combination of cheap microcomputers, videodisk machines and audio teleconference equipment.

Developments in New Zealand have concentrated initially on audio teleconference equipment. Overseas models used in experimental networks were found to be less than satisfactory, and the New Zealand networks will use new equipment (at a time of writing under manufacture) specifically designed at the University of Otago, in cooperation with the Telecommunications Division of the New Zealand Post Office.

The next level of development will be the integration of computer and video technologies into the audio system. While the basic technologies are known, funding is now required to work out, in pragmatic network terms, the best educational configurations. These are not necessarily a matter of more costly equipment; more, they concern the best way of delivering student materials effectively, while encouraging on-line participation in the educational process.

Developments in New Zealand parallel investigations in other parts of the world and an important function of international agency involvement may be the coordination of research into telecommunication applications of distance education, and the funding of pilot projects which attempt to solve some of the operational questions which arise.

NEW ZEALAND EDUCATION STATISTICS

A. Population as of 1985

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	3,232,700	113,630	430,190	467,100	896,550	869,510
Male	1,005,900	58,000	219,470	238,310	447,050	409,450
Female	1,626,800	55,630	210,720	220,790	449,500	460,060
Rural	530,486	18,643	70,594	76,651	147,124	142,687
Urban	2,702,214	84,983	359,596	590,449	749,426	726,823

B. Educational Institutions

Enrollment (1984)						
1. Primary Schools	Number	Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	465,353	238,717	226,636	*	21,102	—
Rural	76,364	39,174	37,190	*	3,463	—
Urban	388,989	199,543	189,446	*	17,639	—
Enrollment (1984)						
2. Secondary Schools (Forms 3-7)	Number	Boys	Girls	Capacity	Teachers	
					Trained	Untrained
Total	231,657	116,594	115,063	*	14,154	—
Rural	38,014	19,133	18,881	*	2,323	—
Urban	193,643	97,461	96,182	*	11,831	—
Enrollment (1984)						
3. Universities	Number	Boys	Girls	Capacity	Faculty	
General	45,846	20,927	24,919	*	*	
Technical	1,069	831	238	*	*	
Professional Colleges						
Medical	2,299	1,432	867	*	*	

* Information not available.

** Comprising 2,958 full-time and 1,956 part-time.

Appendix A
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Engineering/ Technology	4,998	3,801	1,197	*	*
Agriculture	4,030	2,837	1,193	*	*
Total	58,242	29,828	28,414	*	4,914**

4. Teacher Training	<u>Number</u>	<u>Boys</u>	<u>Girls</u>	<u>Capacity</u>	<u>Faculty</u>
Primary Teacher Training	1,868	339	1,529	not full	*
Secondary Teacher Training	554	216	338	not full	*
Total	2,422	555	1,867		376

5. Technical/ Vocational Training Institutes	<u>Enrollment (1984)</u>				
	<u>Number</u>	<u>Boys</u>	<u>Girls</u>	<u>Capacity</u>	<u>Teachers</u>
Polytechnics (full-time)	8,195	2,200	5,995	*	2,581
(part-time)	36,217	22,415	13,801	*	
Technical Correspondence Institute/part-time	29,757	23,976	5,781	*	391
Others (specify)					
Secondary Schools/ part-time	54,289	14,529	39,760	*	*
Correspondence School/part-time	10,199	2,561	7,638		
Total	138,657	65,681	72,975		

6. National Education/Training Institutes (included in above 1, 2, 4 and 6)	
Technical Correspondence Institute	
Correspondence School	
External at Massey University	

* Information not available.

Appendix B

**ROLL NUMBERS OF FULL-YEAR STUDENTS AT EDUCATIONAL INSTITUTIONS IN NEW ZEALAND
AT 1 JULY 1985**

TYPE OF INSTITUTION	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<i>Pre-school - Non-profit making groups</i>										2,384	3,053	3,041
At Primary Schools	...	...	...	1,586	1,112	913	1,039	685	825	759	853	1,044
Correspondence School	...	...	...	206	259	301	297	341	505	495	458	488
Playcentres	21,643	22,400	22,801	21,396	19,401	17,765	16,448	16,198	16,395	16,176	15,514	14,923
Kindergartens	30,171	32,357	34,075	35,560	36,812	38,595	39,074	39,791	40,009	40,340	40,590	41,170
Total	51,314	54,757	56,876	58,748	57,584	57,574	56,858	57,015	57,734	60,148	60,476	60,666
<i>Primary -</i>												
Primary Schools	389,319	390,444	90,350	390,419	389,186	380,024	373,688	367,286	367,879	372,042	362,885	352,954
Intermediate Schools	77,412	77,316	77,315	74,334	74,096	73,250	73,136	73,383	75,510	77,733	76,103	72,817
Area and DHS Primers to Form 2	...	...	...	...	...	6,341	6,341	6,177	6,205	6,348	6,344	6,580
Forms 1 and 2 at Form 1-7												
Schools	4,799	5,015	5,615	5,574	5,830	5,946	5,862	6,215	7,501	7,421	7,321	7,160
Chatham Islands Schools	127	155	146	142	144	149	165	0	0	0	0	0
Correspondence Schools	799	963	1,021	1,003	1,140	1,353	1,335	1,353	1,451	1,383	1,481	1,599
Departmental Special Schools	475	587	482	427	360	363	289	277	280	324	304	224
Dept of Social Welfare Schools	)	)	89	99	123	107	94	85	69	93	49	40
RNZ Foundation for the Blind Sch.	168)	98)	95	96	97	88	73	83	73	69	68	61
Private Primary Schools	50,574	50,745	49,899	49,044	48,690	48,355	45,619	38,997	27,199	10,670	10,798	10,991
Total	523,673	525,323	525,012	521,138	519,666	515,976	506,602	493,856	486,167	476,083	465,353	452,426

Secondary -

State Secondary Schools	173,909	184,225	193,894	195,770	198,467	193,860	190,851	192,788	199,845	215,633	215,819	214,518
Area and DHS Form 3-7	3,087	3,016	2,856	2,793	2,831	2,747	2,753	2,639	2,718	2,917	3,036	3,199
Correspondence School	586	709	762	728	920	912	920	989	937	885	969	1,653
Departmental Special Schools	...	...	109	151	216	250	235	215	279	290	406	370
Dept. of Social Welfare Schools	...	...	291	292	322	355	331	315	346	388	357	296
Private Secondary Schools	31,014	31,804	32,379	32,264	32,287	32,004	31,256	27,980	19,376	10,635	11,070	11,534
Total	208,596	219,754	230,291	231,998	235,043	230,128	226,346	224,926	223,501	230,748	231,657	230,970

Continuing - State only

Technical Correspondence Inst.	18,749	19,634	21,712	22,022	26,404	29,415	28,566	30,091	29,837	29,899	29,757	31,949
Technical Institutes-												
Full-time students	3,353	3,666	4,260	4,728	5,760	6,286	6,842	6,915	7,330	7,956	8,195	8,356
Part-time students	33,996	33,091	35,151	31,801	34,282	38,755	37,659	35,849	36,210	37,584	36,217	35,194
Classes at other Institutions -												
Full-time students	208	174	253	218	200							
Part-time students	51,260	59,324	62,497	64,688	75,124	62,313	72,008	67,851	64,197	69,545	64,488	52,701
Total	107,566	115,889	123,873	123,457	141,770	136,769	145,075	140,706	137,574	144,984	138,657	128,200

Teacher Colleges -

Teacher Training	7,913	7,681	7,426	6,748	6,150	5,729	5,803	5,844	4,411	3,372	2,551	2,644
Post grad. Specialist Courses	91	98	95	89	84	91	116	57	53	57	54	59
Other Full-time Courses									39	75	123	141
Total	8,004	7,779	7,521	6,837	6,234	5,820	5,919	5,901	4,503	3,504	2,728	2,844

University Institutions -

Full-time internal students	25,061	25,875	8,374	29,130	29,677	29,894	30,989	31,549	32,076	33,144	33,875	34,431
Part-time internal students	10,438	11,056	11,522	11,719	12,158	12,644	12,944	13,187	13,235	13,326	13,578	13,368
Extra-mural students	4,113	5,191	5,583	6,099	6,488	6,612	7,366	8,028	8,838	10,043	10,789	12,069
	39,612	42,122	45,479	46,948	48,323	49,150	51,299	52,764	54,149	56,513	58,242	59,868
GRAND TOTAL	939,265	965,624	989,052	909,126	1,008,620	995,417	992,099	975,168	963,628	961,980	957,133	934,974

... Figures not available

0 Includes "primary schools"

Appendix C

ROLL NUMBERS OF FULL-YEAR STUDENTS IN DISTANCE TEACHING INSTITUTIONS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Correspondence School											
Pre-School	—	206	259	301	297	496	536	526	544	577	713
School Age/Primary & Secondary	3,207	3,257	3,361	4,696	5,816	4,792	5,044	5,251	5,942	6,687	9,650
Adult Part-time	5,124	7,041	9,741	10,933	10,087	10,095	9,511	9,645	9,667	10,418	10,718
Total	8,331	10,504	13,361	15,930	16,200	15,383	15,091	15,422	16,153	17,682	21,081
Technical Correspondence Institute											
Mainly Part-time	21,712	22,022	26,404	29,415	28,566	30,091	29,837	29,899	29,757	31,949	33,518
Massey University											
Extramural Students											
Mainly Part-time	5,583	6,099	6,488	6,612	7,366	7,699	8,497	9,763	10,391	10,950	12,275

Appendix D

SECONDARY DIVISION RETURN FOR TERM 2-1986 TERM-WEEK NO. 2 YEAR-WEEK
 NO. 16 ENDING 6-6-1986
 TEACHING SUMMARY FOR WEEK OF 3 WIRD'S

Department	Sets on Hand	Received	Marked	Balance	Aggregate		Average per Day	Older than Seven Days	Oldest Set
					Term	Year			
1. Art	239	159	253	145	507	2,820	6.3	0	30-3-1986
2. Clothing	174	131	170	135	383	2,491	6.7	16	26-5-1986
3. Commerce	792	532	907	417	2,119	10,004	6.5	90	21-5-1986
4. English	526	483	551	458	1,216	6,227	7.6	132	15-5-1986
5. Esl	96	110	124	82	227	1,779	6.5	12	25-5-1986
6. Home Economics	190	152	223	119	505	3,045	6.6	28	2-4-1986
7. Languages	592	577	726	443	1,751	9,370	6.7	134	14-5-1986
8. Mathematics	921	559	783	597	1,777	9,181	9.1	163	4-5-1986
9. Music	106	162	186	82	510	2,594	6.1	11	28-5-1986
10. PT	0	0	0	0	0	0	0.0	0	6-6-1986
11. Science	330	395	495	230	1,227	5,226	6.0	8	26-5-1986
12. Social Sciences	358	180	273	265	633	3,901	5.6	97	14-5-1986
13. Egg	0	0	0	0	0	0	0.0	0	6-6-1986

14. Technicrafts	152	103	177	78	482	2,499	6.0	14	26-5-1986
15. Thorndow	0	0	0	0	0	0	0.0	0	6-6-1986
Totals 1986	4,376	3,543	4,868	3,051	11,437	59,118	6.9	706	2-4-1986
Totals 1985 TWK 2	3,432	3,756	4,140	3,048	10,300	61,422	6.3	655	7-5-1985
Change	27.5	-5.7	17.8	0.1	11.0	-3.8	9.5		
Totals 1985 YWK 16	996	8,583	6,147	3,432	6,147	57,282	7.3	150	30-4-1985
Change	339.4	-58.7	-20.8	-11.1	86.1	3.2	-5.5		

Roll at End of Week

	Week Ending	Full-Time	SSG	Part-Time	INST	TOTAL
TWK 2 YWK 16	6-6-1986	992	6,738	10,127	85	17,942
TWK 2	7-6-1985	1,087	4,727	9,433	56	15,303
YWK 16	31-5-1985	1,086	4,549	9,475	56	15,166

Appendix E

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**TECHNICAL CORRESPONDENCE INSTITUTE
ROLL AT 1 JULY 1986**

	<u>1986</u>	<u>1985</u>	<u>Diff</u>
Accounting	808	748	60
Agriculture	1,871	2,076	-205
Aircraft Engineering	148	111	37
Bankers Institute	2,085	1,990	95
Boilermaking	204	228	-24
Bookselling	27	38	-11
Bricklaying	89	109	-20
Cabinetmaking	153	122	31
Carpentry & Joinery	679	590	89
Chartered Secretaries & Administrators	121	149	-28
Coachpainting	444	423	21
Concrete Construction & Building Admin.	-	22	-22
Dispensing Assistants	110	101	9
Electrical Fitting	193	184	9
Electrical Trade	1,030	986	44
Engine Drivers, Boiler Attendants & Boilerhouse Practice	409	269	140
Export Diploma	171	180	-9
Factory Inspectors	43	32	11
Fire Engineering	121	86	35
Fitting, Turning & Machining	570	546	24
Fitting Welding (Incl. Welding)	337	330	7
Food Hygiene	45	33	12
Footwear Manufacture	152	173	-21
Hairdressing	600	536	64
Health Engineering & Air Pollution	21	34	-13
Heating, Ventilating & Air Conditioning	111	107	4
Horticulture	2,645	2,604	41
Industrial Instrumentation	84	74	10
Institute of Transport	65	71	-6
JP's Judicial Course	190	198	-8
Legal Executive	328	280	48
Life Underwriters	270	231	39
Management	1,440	1,204	236
Manufacturing Jewellery	60	63	-3
Marine Engineering	262	178	84
Mech. Eng. Draughting	13	20	-7
Mining, Tunnelling, Quarrying	30	37	-7
Motor Trades	2,329	2,191	138
Moulding & Patternmaking	52	55	-3
Motor Vehicle Salesman	548	622	-74
Painting & Decorating	372	371	1
Panelbeating, Coachbuilding & Motor			

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	1986	1985	Diff
Trimming	635	633	2
Pilots	259	277	-18
Plastering	88	72	16
Plumbing & Gasfitting	626	642	-16
Printing	604	503	101
Purchasing & Supply	103	144	-41
QSRB	57	60	-3
Radio, TV, Microprocessors	723	629	94
Real Estate	1,100	1,100	-
Real Estate Salesman (Preliminary)	2,236	2,299	-63
Refrigeration	230	219	11
Retail (DITB)	99	120	-21
Saw Doctors, Timber Machining,			
Toolmaking	86	98	-12
Sheetmetal Working	252	222	30
Ship, Yacht and Boatbuilding	80	66	14
Signwriting & Ticket Writing	131	134	-3
Small Business Agency	75	-	75
Small Claims Referees	27	-	27
Technical Teachers & Commerce Teachers	42	58	-16
Textiles	141	166	-25
Watchmaking	22	18	4
Works Supervisors Certificate	145	136	9
Total	26,991	25,998	993
AAVA - NZ Certs & Technician			
Certificates	6,527	6,092	435
GRAND TOTAL	33,518	32,090	1,428
Referrals	179	125	54

AAVA

NZ Certificates	1986	1985	Diff
Advertising	33	52	-19
Aeronautics	27	28	-1
Architectural Draughting	210	172	38
Building	201	170	31
Building Inspection	25	18	7
Civil Engineering	647	477	170
Commerce	554	537	17
Commerce Supply	56	50	6
Commerce - Office Management	44	-	44
Computer Technology Electronics	170	160	10
Customs	147	134	13
Data Processing	12	-	12
Electrical Engineering	520	517	3
Fire Technology	6	9	-3

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	<u>1986</u>	<u>1985</u>	<u>Diff</u>
Forestry	78	90	-12
Gas Engineering	6	-	6
Heating, Ventilating & Air Conditioning	13	9	4
Industrial Measurement & Control	32	38	-6
Land Surveying)			
Land Surveying Mines)	127	109	18
Mechanical Engineering	562	584	-22
Local Government Administration	99	70	29
Plastics	6	-	6
Power & Plant	46	38	8
Production	35	44	-9
Quantity Surveying	127	83	44
Road Transport	7	7	
Sciences)			
Statistics)	425	383	42
Surveying Draughting	221	209	12
Telecommunications	252	324	-72
Town Planning	33	33	-
Technicians Certificates			
Automotive	-	28	-28
Civil Engineering	33	26	7
Draughting	164	146	18
Electrical	96	158	-62
Garage Management	8	26	-18
Mechanical Engineering	18	23	-5
Electronic Tech Cert	364	386	-22
Survey	55	43	12
Telecom Tech Cert	734	576	158
Waste Water Treatment	6	13	-7
Attainment	7	-	7
Unregistered	197	225	-28
DIPLOMAS			
Building	9	-	9
Management Services	1	-	1
Total	<u>6,527</u>	<u>6,092</u>	<u>435</u>

A DISTANCE EDUCATION COURSE FOR TCI TUTORS

The development of any training course for tutors of TCI must be seen as part of a more comprehensive staff development program. Our staff training tutors, with support from selected tutors with specialist skills and experience in distance education, are preparing instructional modules on various aspects of distance education.

The course will consist of a series of modules - a module being defined as a self-contained instructional package based on one topic. Each module is divided into a set of units, each unit dealing with a specific aspect of the module topic. A feature of this modular design is that it can be used flexibly.

- (i) Modules can be studied in sequence as part of a structured course. This is how new tutors will be trained;
- (ii) Modules can be studied singly, or in groups, by single tutors or small groups of tutors, as part of in-service training; and
- (iii) Single modules or single units can be used as readings for seminars, workshops, and other forms of tutor refresher courses.

Each module will contain a brief introductory booklet outlining the content of the module, its teaching structure, its learning objectives, and how to study the module.

A study guide will be the central part of a unit. A study guide will consist of:

- (i) the learning objectives for the unit;
- (ii) an outline of what the unit is about;
- (iii) one or more readings or a tape to listen to;
- (iv) the teaching material on the topic of the unit;
- (v) self-testing exercises; and
- (vi) a written assignment.

Each tutor will be expected to work through the unit largely on his own, but coached by the training staff or a specialist tutor whenever he needs it. In addition to the study guide work, each module will have an initial briefing session, each unit will include group discussion, and one-to-one tutor support will be available from the training staff and specialist tutors.

In preparing this course, we are choosing appropriate readings and other suitable materials such as examples from existing TCI assign-

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ments. These will enhance the credibility and standing of the course as well as making savings in writing and production time, and costs to our taxpayers.

The course will not be run entirely by specialist tutor training staff. It is intended to make use of the talents of existing tutors who have proven experience and are able practitioners of our distance mode of education. Being taught and coached by their peers will again improve the credibility and standing of the course with tutors. It will reinforce the essential day-to-day training that new tutors get from their colleagues on the job.

Course Aims

The aims of the course planned for tutors are as follows:

- (i) To give tutors, as soon as possible, training in educational principles and in teaching techniques;
- (ii) To help tutors make the change from being vocational practitioners to being vocational educators;
- (iii) To encourage tutors to develop an attitude to our courses and students which will give them a clearer picture of their role as tutors; and
- (iv) To enable tutors to appreciate that distance education is a very effective form of instruction.

Course Description

Certain skills are all important such that every tutor must be given the chance to develop them. We shall cover these skills in a basic skills course that all new tutors will undertake.

Other skills are not needed by all tutors equally. For example, tutors solely marking students' scripts need different skills from those tutors involved with assignment writing. While all tutors need a knowledge of the basics, they must be allowed to develop these skills, to a certain extent, in the direction of their choice while conforming to the needs of TCI. Tutors, like any other group, differ widely in their experience and ability. Therefore, after the basic skills course, we shall have available a series of modules from which a tutor will be given tuition, to suit TCI's, and his individual needs.

The course is based on a total study-time allowance of 12 weeks (400 hours), to be shared between TCI and the Wellington Regional Tutor Training Centre. A three-stage training course is envisaged.

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(a) *Basic Skills* (five weeks)

This program will consist of four compulsory modules:

- (i) The System of Distance Education (40 hours)
- (ii) Two-way Communication in Distance Education (40 hours)
- (iii) Objectives and Testing in Distance Education (28 hours)
- (iv) Writing a Teaching Unit (54 hours)

The program will take 162 hours. Tutors are to complete this program in their first year. Satisfactory completion *may* become a prerequisite for appointment to the permanent staff. Much of what a tutor has to learn is learned on the job – for example, student enrollments, student records, production procedures, script handling systems, script marking, writing, and conditions of employment. *No system of tutor training can, by itself, train tutors thoroughly.* The help of fellow tutors in their day-to-day work is a form of continuous on-the-job training, particularly at TCI, where tutors are located in work-related groups.

The training course must be the real-life situation and we are doing this by having much of this course prepared and managed by our proven superior tutors.

(b) *Developmental Skills* (up to five weeks)

Training is designed to allow tutors to select modules which develop and extend the skills taught on the basic skills course. Tutors would normally do this stage in their second year. If a tutor is found to have difficulty or weakness in aspects of the basic skills course, he can go on to modules that go more fully into these aspects – for example, the fundamentals of clear writing.

In the second stage, tutors choose with advice three to six modules from a range of about ten offered. Most of the modules need about 40 hours of study time. All are closely relevant to tutor development at TCI, and there is a pool of experienced, articulate people to teach the modules and revise and update them as required.

(c) *Distance Education Project or Special Methods* (two weeks)

We are sure that tutors will gain much by completing a project on a distance education topic in their third year.

MASSEY UNIVERSITY

TABLE 8: OCCUPATIONS OF EXTRAMURAL STUDENTS 1970-1983

Occupation	1971	%	1974	%	1977	%	1980	%	1983	%	1986	%
Full-time Study	32	(1.5)	48	(1.3)	65	(1.1)	74	(1.1)	120	(1.2)	115	(0.9)
University Staff	6	(0.3)	4	(0.1)	6	(0.1)	18	(0.3)	20	(0.2)	25	(0.2)
Teachers	1,267	(57.5)	1,743	(48.3)	2,142	(37.8)	1,982	(28.5)	2,350	(24.3)	2,037	(16.6)
Teachers' College Students	76	(3.4)	121	(3.4)	138	(2.4)	230	(3.3)	105	(1.1)	65	(0.5)
Government Employees	195	(8.8)	453	(12.5)	1,060	(18.7)	1,652	(23.7)	1,663	(17.2)	2,606	(21.2)
Local Body Employees	44	(1.9)	149	(4.1)	324	(5.7)	238	(3.4)	1,253	(13.0)	1,676	(13.7)
Private Employment	136	(6.2)	302	(8.4)	816	(14.4)	1,378	(19.7)	2,251	(23.3)	2,826	(23.0)
Self-employment	39	(1.8)	76	(2.1)	165	(2.9)	188	(2.7)	393	(4.1)	510	(4.2)
Housepersons	279	(12.7)	518	(14.3)	925	(16.3)	1,139	(16.4)	1,350	(14.0)	1,408	(11.5)
Full-time Students at Technical Insts.	-		15	(0.4)	23	(0.4)	28	(0.4)	36	(0.4)	54	(0.4)
Others	131	(5.9)	185	(5.1)	-		36	(0.5)	109	(1.2)	953	(7.8)
Total	2,205	100	3,614	100	5,664	100	6,963	100	9,654	100	12,275	100

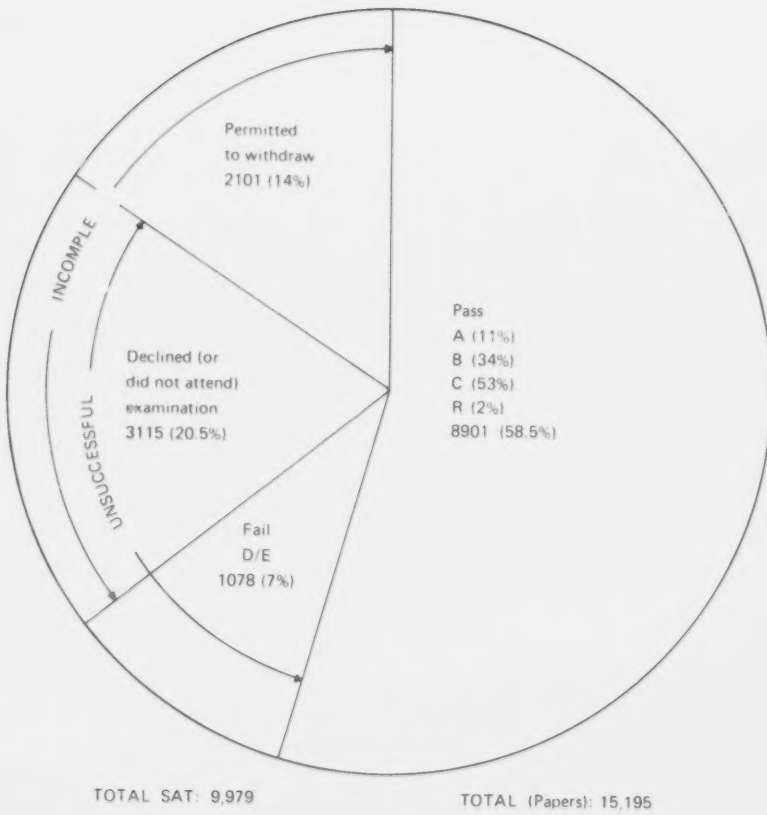
MASSEY UNIVERSITY
COURSE ENROLLMENTS AND PASS RATES BY STAGES 1971-82
Papers

	1972			1974			1976			1978			1980			1982		
	Passed	Enrolled	%	Passed	Enrolled	%	Passed	Enrolled	%	Passed	Enrolled	%	Passed	Enrolled	%	Passed	Enrolled	%
	Sat			Sat			Sat			Sat			Sat			Sat		
STAGE I/ 100 Level	1158	1874	62	2866	4958	58	3616	6550	55	3879	6971	56	4122	7552	55	4512	8674	54
		1355	85		3214	89		4265	85		4511	86		4743	87		5164	27
STAGE II/ 200 Level	359	513	70	1382	1976	70	1794	2775	65	2393	3646	66	2546	4043	63	2927	4493	65
		401	90		1463	94		1943	92		2624	91		2824	90		3240	90
STAGE III/ 300 Level													277	394	79	799	1036	77
														307	90		862	94
U/Grad.	1517	2387	64	4248	6934	61	5410	9325	58	6272	10617	59	6945	11989	58	8238	14203	58
		1756	86		4677	91		6208	78		7135	88		7874	88		9260	29
Diploma/ 600 Level	362	486	74	368	585	63	469	733	64	432	637	68	456	637	68	663	992	67
		36	99		40	90		498	94		458	94		493	92		708	94
All Courses	1887	2873	65	4616	7519	61	5879	10058	58	6704	11254	60	7401	18677	58	8901	15195	59
		2123	88		5086	90		6706	88		7593	88		8367	88		9969	89

The above figures are end of the year results based on confirmed enrollments 31st March.

Appendix I

MASSEY UNIVERSITY
EXTRAMURAL RESULTS
ANALYSIS 1982



ASTU Paper Enrollments 1980-1986

		<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
100	Dip. Tchg	3,681	3,996	3,704	4,122	4,285	4,555
200	S.E.T.H.	281	160	143	105	159	261
300	E.C.E.	462	450	477	527	463	503
400	T.T.C.	<u>457</u>	<u>299</u>	<u>261</u>	<u>216</u>	<u>187</u>	<u>219</u>
	Total	4,881	4,905	4,585	4,970	5,094	5,538

NOTE: Table shows numbers of enrollments in *papers* rather than people enrolled. For Diploma in Teaching (Dip. Tchg.) the average student enrollment is 1.75 papers per person. For the Trained Teachers Certificate (TTC) average enrollment is 2.5 papers person. Other courses relate directly; a paper enrollment represents a person on the course.

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Distance Education in Papua New Guinea

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INTRODUCTION

There is great potential in Papua New Guinea for the development of distance education programs. The physical nature of the country with scattered centers of population (19 provinces plus the National Capital District) and problems of transport make learning at a distance the only option for many of PNG's 3.5 million people. The country's late start in providing education programs at all levels and the limited number of education facilities in existence today, mean that the country is short of trained manpower at several key levels and will continue to be in the foreseeable future. Distance education offers a real option for educators in PNG to begin to overcome the shortfall and at the same time satisfy a growing demand among the population generally for access to further education.

At present, two institutions offer distance education programs: the College of External Studies (COES) and the University of Papua New Guinea (UPNG) through its Department of Extension Studies. Department of Extension Studies, UPNG offers Adult Matriculation (Grades 11 and 12) and a limited number of first year (Foundation Year) courses which form part of the University's Bachelor of Arts and Law degrees. At present, enrollments stand at around 750 Adult Matriculation and 250 Foundation Year students each semester. Enrollments have tripled in the last year and could mushroom increasing the demand beyond capabilities. The problem is in building up a more efficient administrative structure in the Department to cope with new growth.

The Department of Extension Studies was established in 1976, ten years after the founding of the UPNG. The fact that the Department came into being after the University was well established explains to some extent why Extension Studies at UPNG is still struggling to find its place within the institution and to establish viable programs. The key issue is resources. The Extension Studies Department was established from the start as a small service unit to assist teaching departments to externalize their existing courses. For the most part, UPNG academics have been reluctant to divert resources away from face-to-face teaching and research programs and as a result only a limited number of extension courses have been produced. Only now, as financing for tertiary level education is being reduced, is the realization growing on the campus that extension teaching may be a more cost-effective means to provide access to university education to a wider group within the community.

A. Extension Centers

One of the most important developments for extension studies at UPNG has been the establishment of three extension centers in three of the country's provinces (East New Britain, Madang and North Solomons). While individual students scattered around the country to enroll in extension courses, the largest number of enrollments takes place in those provinces where University Centers have been established. It has been found that students have a better chance to succeed in their studies when they have access to tutorial assistance and general counselling and support, which the staff of University Centers are able to provide. Moreover, the existence of a University Center in a province makes it possible for people based in outstations, to be better catered for.

In addition to looking after students enrolled in UPNG extension courses, a University Center also develops and coordinates its own adult continuing education program. Depending on available resources, there is no limit to the range of programs, courses, workshops, etc. which a center can organize (youth, women's interests, adult literacy, public health, etc. are all possible). Indeed, in the case of Port Moresby, this aspect of a Center's operation could in time become its most important function. The Extension Studies Department has already been approached by a number of organizations, institutions and funding agencies regarding the possibility of linking into a University Center if one were established.

B. Satellite Communication

A very important area which needs to be developed is better communication. The experience of the University of the South Pacific (USP) using satellite to link its widely scattered centers should be a model for UPNG. In the case of USP, the centers use the INTELSAT disk operating in their respective countries. In Papua New Guinea, each center would have to have its own small disk, since the single large disk serving the nation is located near Port Moresby. Discussions on utilizing satellite for communication have only just begun — no definite plan has been approved so far.

C. Development of the College of External Studies

The College began its operations in 1957 as a training center for the Public Service Commission and conventional classes were held for adult public servants. However, within two years, this specific function was to disappear from the College's operations and the College was given a

responsibility for preparing school-based correspondence courses. Initially focused on lower secondary courses, the College gradually extended its courses into higher grades replacing the operations of Australian correspondence schools.

After ten years of operation, the College had achieved two significant milestones — the basis for its main function as secondary correspondence school was laid and the responsibility for correspondence education was wholly based in Papua New Guinea.

At about this time, a further major policy shift added another facet to the College's operations. The College was placed in the Adult Education section of the Education Department, required to write its courses for adult learners and to extend into technical, commercial and non-formal education.

A major crisis occurred after these new directions were adopted, as despite rapidly increasing costs to parents, the College was overwhelmed with demand for junior secondary courses. In a dramatic reversal, the College had most of its operations suspended for a period, its junior, secondary, technical and non-formal courses cancelled and its control by Adult Education revoked.

After a period of quiet recovery, the operation of the College, as a provider of alternative high schooling, was confirmed by the end of the 1970s with its placement in the National Institutions branch of the Education Department and its commitment to writing a new course, at the same time, the successful Commerce Certificate for employed adults was retained and meant a small involvement in adult vocational education.

D. The Present and the Immediate Future

At the present time, the College is moving steadily to complete a full complement of Grade 7-10 courses and undertake a revision of the Commerce Certificate. Future activities consistent with the College's present directions would be the rewriting of some Grade 7-10 courses so that all courses (and the COES Grade 10 Certificate) are completely aligned to the national school curriculum and the offering of Grades 11 and 12 to full matriculation level. Organizational factors that can be expected to materially affect the College's operations are the decentralization of administration and marking to provincial centers.

E. COES as Correspondence School

The College's development to date illustrates how, given the time, resources and policy direction, it can prepare and operate an extensive

range of correspondence courses; how, in the absence of a charter specifying the College's objectives, switches in educational priorities can cause severe disruption to the effective operation of the College; and how, despite digressions into adult and non-formal education, the College has been steadily evolving as a traditional correspondence school, providing secondary curriculum for students who cannot gain entry to the national high schools, or who wish to return to study in adulthood.

The College is well-equipped to fill the role of a secondary correspondence school — it has long-term commitments to writing a full secondary curriculum, it is staffed by well-qualified secondary teachers and its clientele is largely secondary-aged adolescents seeking a basic secondary qualification. Given the College's past operations in non-formal, technical and adult education, however, and as Papua New Guinea's only national correspondence agency, questions of social and educational policy remain to be addressed.

There is considerable potential for distance education to assist in achieving the educational objectives of Papua New Guinea.

The College has substantial investment in capital assets. With its 21 professional staff at Konedobu, its 19 provincial coordinators, its 100 clerical and administrative staff and 16,000 fee-paying students, it has even greater investment in human resources.

The population is dispersed through 19 provinces separated by barriers of mountains, sea, valley and forest. Travel is difficult and expensive and the only practical communication is by air. Regular schooling will be difficult for some, impossible for others, whereas distance education can be extended in some form to most.

Not all children attend community schools and of those completing Grade 6, the majority will not gain places in provincial high schools. Hence, a large number of school leavers seek further educational opportunities that are not available by conventional means.

Of those who attend provincial high schools, about half complete Grade 10 and many of these will not gain employment or entry to national high school Grades 11 and 12 or university matriculation classes. Of those who enter government service or commerce, many will seek upgrading of qualifications or extension into job-related skills. Such on-the-job training or extension of general educational levels for adults can be most conveniently met by the flexible schedules of distance education.

F. Provincial Center Staff

These field staff, recruited from provincial education systems, are essential to the College's effectiveness as national agency. Further, these officers may provide the most fruitful source of continuity for the College's future development.

G. Establishment

One provincial coordinator has been appointed in each of the 19 provinces and the National Capital District.

H. Appointment and Contract

Coordinators are appointed by the College from nominations provided by the provincial education authority. Contracts are to the national education system, although officers are under the specific control of the College.

I. Conditions of Service

Provincial coordinators observe high school teachers' conditions of service, although their duties are specified by the College. As with College staff, provincial officers observe normal school terms and encounter similar difficulties when demand for continuous services occurs during school vacation periods.

J. Qualifications

Provincial coordinators are required to be trained secondary teachers. A small number has advanced their qualifications through in-service opportunities and some have received short periods of overseas experience. Coordinators' experience has been largely teaching high schools in Papua New Guinea, including head of department responsibilities and other positions of professional and administrative responsibility.

K. Duties

As with the College's course writers, provincial coordinators are required to perform duties that differ markedly from the duties relevant to their qualifications and experience. They coordinate and manage the College's enrollment system, store and issue study materials, recruit and

oversee distance teachers (markers), visit study centers, examination centers and individual correspondence students, issue local publicity about the College's activities and liaise with the provincial education authority.

L. Continuity, Career Prospects and Training

Provincial coordinators' positions have not been established long enough to discover whether the College will experience continuity problems. However, the positions have been established long enough to indicate that the best provincial coordinators have a considerable contribution to make to the whole gamut of the College's operations. It is clear that any loss of these national officers to other areas of education or Government would seriously diminish the College's pool of staff with direct experience of distance education and would retard the opportunity for national officers to provide the continuity which is so necessary for distance education in Papua New Guinea.

Where appropriate, suitable training should be provided to prepare such officers for the subject, course writing, administrative and management requirements of the College's operation as well as for their immediate coordinator's role. Some of this training would be undertaken on the job, some when all coordinators are assembled at the College, some would require short-term fellowships to both overseas and national institutions. Some consideration could also be given to carefully selected and supported training or qualifications by distance education.

M. Control of Provincial Coordinators

At present, control of coordinators is from the College. As there is considerable variability in provincial support for the centers and as the College has national responsibilities, it seems desirable that coordinators and centers remain directly responsible to the Principal of the College.

N. Ancillary Staff in Provincial Centers

Centers with enrollments in excess of 200 place administrative and clerical demands that cannot be met by coordinators without extensive weekend and evening work. As the Center is open and attended by students continuously, the coordinator cannot attend to both immediate

demands and the ongoing demands of distance teachers, visits to study centers, College returns, etc. Clerical assistance is needed in such centers and should be provided by the College on a regular basis. Provincial support could be sought for such ancillary staff but continuity would be best secured by vesting control and payment through the College. In some provinces, additional teachers have been proposed in lieu of clerical assistance. At the present time, the greatest need is for clerical support for the coordinator.

O. Distance Teachers

The College's professional staff do not "teach" students, apart from preparing the course materials which students will have posted to them from the provincial center. Interaction with correspondence students' work is undertaken by "distance teachers" (and by resident teachers in registered study centers). Distance teachers are recruited by the provincial coordinator and are usually high school teachers from adjacent provincial or national high schools and sometimes qualified teachers who are not currently teaching. Provincial coordinators are advised by their handbook to seek distance teachers who are "reliable, efficient, conscientious, careful, helpful and consistent". Distance teachers mark students' workbooks from guides provided by the College's course writers and write personalized tutorial comments to each student. There is considerable variability in their ability to recruit suitable distance teachers in all subjects. Some provincial coordinators report their own underused ability for marking cannot be utilized because of the onerous nature of their coordinating duties and others report unemployed suitable teachers in their region who, with provincial support, could become full-time markers.

Distance teachers play a crucial role in correspondence students' learning as they monitor students' actual performance. It is essential that the best possible arrangements be made for giving students regular, constructive and rapid feedback on their learning. In addition, distance teachers keep a watchful eye on the accuracy of course materials, on particular problems experienced by students and report these to the College through the provincial coordinator's monthly report. Distance teachers are expected to spend a minimum of 15 minutes marking each workbook, for which they receive a K1.50 fee. Teachers express an educational concern for this short period devoted to each student but feel that the fee for marking is not commensurate with either the time or the importance of the task. Teachers are expected to return students'

workbooks within seven days, although despite attempts of provincial coordinators to ensure that this is done, there is considerable variation in the turnaround time.

EDUCATION PROGRAMS

A. College of External Studies, Konedobu

The College's main activity is providing secondary (Grades 7-10) correspondence education to those who do not continue in the formal school system. It also provides a Commerce Certificate for employed adults. About half of the courses parallel those taught in provincial high schools and the College awards its own certificates. Students may enroll and be examined at any time of the year and may study entirely by correspondence or in registered study centers or in arranged classes.

B. The Secondary Subjects Program

This program offers subjects at Grades 7-10 leading to the College's Letter of Attainment (per subject), Grade Certificate (per grade) and Grade 10 Certificate (highest award).

<i>Subjects:</i>	At each grade, students must successfully complete English and Mathematics and two other subjects. The present range of subjects is:
Grade 7	English, Mathematics, Social Science, Commerce, Science.
Grade 8	English, Mathematics, Social Science, Commerce.
Grade 9	English, Formal Mathematics or Practical Mathematics, Social Science, Commerce, Environmental Studies, Neighboring Countries of PNG.
Grade 10	English, Formal Mathematics or Practical Mathematics, Social Science, Commerce, Environmental Studies, Neighboring Countries of PNG.
<i>Status:</i>	The current status of these subjects is shown in Table 1.

Table 1: Current Status of the Secondary Subjects Program

Subject	When Written or Revision Date	Syllabus
Gr. 7 English	1985-86	Provincial High School
Mathematics	1976	" " "
Social Science	1978	" " "
Commerce	1981	" " "
Science	1984	" " "
Gr. 8 English	1981	Provincial High School
Mathematics	1977	" " "
Social Science	1985	" " "
Commerce	1982	" " "
Science	1986	" " "
Gr. 9 English	1975	COES
Formal Mathematics	1977	"
Practical Mathematics	1977	"
Social Science	1979	"
Commerce	1977	"
Environmental Studies	1982	"
Neighboring Countries	1978	"
Gr. 10 English	1976	COES
Formal Mathematics	1977	"
Practical Mathematics	1978	"
Social Science	1979	"
Commerce	1986	Provincial High School
Environmental Studies	1986	COES
Neighboring Countries	1978	"

It can be seen that the Grades 7 and 8 program is now almost totally aligned to provincial high school prescription, while Grades 9 and 10 diverge considerably. This is particularly the case with Environmental Studies and Neighboring Countries of PNG, which are not part of the provincial high school curriculum and which may be taken as part of the four subjects comprising the College's Grade 10 Certificate. Further, the College does not yet offer a core science course at Grade 9 or 10 and its Practical Mathematics cannot be regarded as core mathematics. It is the long-term policy of the College to replace such courses with high

school equivalent courses, although with current staffing levels and the absence of firm plans for such a rewriting program, this appears to be a considerable period in the future. Some consideration could be given to modernizing and condensing Environmental Studies and Neighboring Countries into single courses available as non-core subjects at Grade 9 or 10 level.

C. Subject Enrollments

In 1986, 16,192 including 866 Commerce Certificate students are enrolled in the College's Secondary Subject Program.

Subjects	Grade 7	Grade 8	Grade 9	Grade 10
English	2,751	1,040	1,617	1,315
Mathematics	1,448	560	1,200	764
Commerce	755	346	415	248
Social Science	911	292	394	248
Science	148	44	59	148
Neighboring Countries			108	92
Environmental Studies			116	86
Total	6,013	2,282	3,907	3,114
Grand Total = <u>15,316</u>				

Total enrollments from Grades 7-10 show the gradual drop in numbers typical of distance education courses requiring many years of study. Low total enrollments in the Grade 8 level are explained by several factors — normal attrition between one grade and the following grade (seen also between Grades 9 and 10) and the recent introduction of some Grade 8 courses, whereas a considerable increase between Grades 8 and 9 indicates a new group of leavers from provincial high school Grade 8 level. (Until recently, Grade 8 has been a point at which like Grades 6 and 10, selection from further education has occurred and some of the effects of this are still affecting enrollments.)

D. Mode of Study

Students enrolled in secondary subjects study in either of the two major modes, correspondence or registered study center. Included in

correspondence are students who may be at organized centers of some kind but who do not receive supervision from a qualified secondary teacher. Registered study centers are supervised by trained secondary teachers who mark students' work but these centers are independent of the college except for their provision of College courses.

E. Mode of Instruction - Unit and Workbooks

Students follow lesson guides arranged in a set of six 'unitbooks' per subject. When lesson material in the unitbook has been mastered, students attempt related exercises in the accompanying workbook. Each unit is expected to contain about five weeks' work. Correspondence students submit the workbook for marking and tutorial comment, through the provincial center to the college regionally-based distance teachers. Study center students submit their workbooks to the approved secondary teacher in their center. Students are advised to begin studying the next unitbook immediately. Meanwhile, the distance teacher collects the workbooks from the provincial center, marks the books on guidelines provided by the course writer, offers personalized written assistance and returns the workbooks through the provincial center within a seven-day period.

F. Progression Through Grades

Students must complete four subjects in each grade before being permitted to enroll in the next grade. Correspondence students are advised to study one subject at a time unless they have an established record of successful study with the College and are not working, when they may be enrolled in two subjects simultaneously. Students in study centers (i.e. being supervised by trained secondary teachers) may take two or more subjects simultaneously.

In special circumstances the College permits employed adults enrollment in single Grades 9 and 10 subjects. Enrollments are accepted and examinations may be taken at any time of the year and students may proceed through their subjects at a pace dictated by their ability and study circumstances. While there is only minor regulation of the shortest time in which a subject may be completed (the six workbooks must be submitted singly), students who do not return workbooks for marking at regular intervals (or whose work is of failing standard on three consecutive workbooks) may have their studies in that subject cancelled. Re-enrollment in the same subject is permitted up to three times on payment of full fees. There is considerable variation in the time taken to

complete a single subject and to complete the four subjects comprising a full college grade. Registered study center students, taking subjects under supervision and having immediate marking of workbooks, can complete a full grade course (four subjects) in one year, whereas individually enrolled correspondence students may average one or, at most, two subjects per year. These students face up to 16 years of study for the current Grades 7-10 program if starting at Grade 6 and up to eight years if starting at Grade 9.

The large number of students in registered study centers indicates a strong demand for further education beyond the community school. In addition, it indicates the extent to which the College study materials can be used to support classroom-based instruction. Few similar correspondence schools would have half of their students being supervised and marked by an immediately available teacher. In view of the characteristics of the College students and the need for regular instruction in English, this facet of the College's operation should continue to receive full support.

G. Student Characteristics

As the College's main operation is offering correspondence versions or alternatives to high school courses to students excluded from provincial high schools, it is to be expected that the majority of its students are of high school age or slightly older, lived near centers of population that support high schools and other educational agencies and, hence, have access to some modern electrical and broadcasting services. This particularly is the case for the 50 per cent of students who attend study centers but also appears to be the case for its correspondence students. Typical COES secondary student subject is male, living in or near a major town, about 19 years of age, not employed, living with his immediate family in a house with electricity, with access to a telephone (through his family's work), probably with a radio and perhaps a cassette player. However, such a typical profile should not obscure the fact that 65 per cent of COES students come from outside the national capital and are to be found in every province, that 25 per cent live in small towns, villages or rural areas, that 50 per cent do not have access to telephones, and 30 per cent to radio or 40 per cent to cassette players. Only 25 per cent of students are female and over 80 per cent are not in employment when they enrolled.

As is the case in most countries, urban dwellers are more likely to be better educated, higher income, better housed and better provided with communication. They are also more likely to seek out and take

advantage of further education, particularly if it is on a user-pay basis. In addition, in Papua New Guinea, where school instruction is in English (whereas the rural lingua franca is likely to be indigenous or pidgin) those who have undertaken some schooling will always be in a better position to undertake more. Again, this tends to work in favor of urban dwellers and to further disadvantage rural dwellers.

Hence, without major political and social initiatives, the College of External Studies can expect its student clientele to come increasingly from those in relatively favored social circumstances.

H. Retention Rate

Retention rates are difficult to deduce in systems that use continuous enrollment and do not have computer facilities for storing and analyzing data. However, correspondence systems that cater for voluntary students cannot anticipate 100 per cent retention rates, despite the best hopes and efforts of dedicated teachers and administrators. At the College of External Studies, some idea of retention rates can be deduced from English subject details. English had the highest enrollment in each grade, is compulsory if further study is contemplated and is usually the first subject taken at each grade. In 1984, retention rates in English were: Grade 7 = 50 per cent, Grade 9 = 70 per cent, Grade 10 = 56 per cent (Grade 8 figures not available). These retention rates are similar to the 50-70 per cent rates for initial studies common in other correspondence systems and must be regarded as reasonable in view of students' established inability to win selection to provincial high schools and their inexperience with correspondence teaching and learning. The drop in retention of Grade 10 students can be regarded as somewhat less satisfactory, as it could be anticipated that most will be experienced correspondence students close to completing the highest qualification. In fact, there is some evidence that few of those students have come through the COES grades and that up to two-thirds of them have had little previous experience with correspondence study.

I. Student Support

Students in distance education programs normally require access to more and better-structured support services than do students in conventional classrooms. While some students will make minimum calls on support services, others will seek considerable support and others will make few calls but would clearly benefit from regular support. Support can be offered as structural (built into the course of study and applied to

all students) or elective (activated by students or the institution as required). Most institutions offer both types in a balance which reflects the teaching/learning philosophy of the institution. Heavy emphasis on structural support emphasizes the preeminence of teaching and is thought by its critics to encourage students into overdependent study techniques, whereas minimal structural support or over-reliance on elective support is thought to be the major cause of student isolation and attrition.

The College of External Studies offers a range of structural and elective supports for students. Structural support is evident in its policy of immediate enrollment and examination on demand, the information and guidebooks provided to students, its students' workbooks, the provision of study materials as complete packages in a carefully phased despatch sequence, the phase despatch sequence, the conversion of these letters into Grade Certificates. In addition, the establishment of provincial centers with their own panels of distance teachers (markers) has a major structural support objective. The major structural support, however, is the College formal association with study centers. In registered study centers, students receive the dual benefits of carefully developed individual instructional packages, as well as tuition in classroom conditions by qualified secondary teachers. In correspondence study centers, students still receive the support of a scheduled timetable, proper study facilities, the opportunity to study with peers and, in many cases, the assistance of community school teachers or some other interested and responsible adult.

The College also offers elective services, some initiated by students and others by the College. Students are invited to contact the student counsellor or their local provincial coordinators for course advice or study assistance. Planning sheets are provided for study timetables and assignment return dates. Format letters are provided for seeking assistance from the local high school and for using the College postal library service. Students are also invited to write notes to their marker in the back of their workbooks.

Support services initiated by the College, as required, are reminders to students when workbooks are overdue, occasional visits from provincial coordinators and extended opportunities to complete courses.

J. Fees

For correspondence students, fees are K45 per subject while for registered study center students fees are K30 per subject. The K15

difference in fees is due to the study center reusing unitbooks from year to year and the approved marking of students' workbooks in the center without remuneration from the College.

There is no objective measure of whether K45 per subject fee is high, reasonable or low, although it is well established that any fee will exclude some rural and village dwellers from continuing study. There is no evidence that increases in fees have seriously reduced College enrollments, although as fees have increased, the student clientele has come increasingly from urban areas and clearly from those who can afford to pay.

Students are assessed by an equal contribution of continuous assessment and final examination. Continuous assessment by workbook has been outlined. Examinations are set by course writers with moderation by the Department of Education's Measurement Services Unit. Once set, examinations remain in currency for as long as the curriculum (and unit and workbooks) remain unchanged. Examinations are supervised in standard conditions by supervisors who have been approved by the College. All examinations are marked centrally at the College under the supervision of the subject head of department.

Both continuous assessment and final examination must be passed with 50 per cent minimum. The combined final grade is criterion-referenced with grades of Fail 0-49, Pass 50-69, Upper Pass 70-79, Credit 80-89 and Distinction 90-100.

The form of assessment used by the College is well accepted in Papua New Guinea and elsewhere. It parallels the system used in provincial high schools and has the educational merit of acknowledging the work done by students throughout the course as well as in a final examination. The College diverges from the provincial high school system by using criterion-referenced final grade. A consequence of this is that no set proportions of grade will be distributed among students and no adjustments made for provincial origin. Criterion-referenced grades are necessary because of the College policy of continuous enrollment and examination, although it is possible that some COES students are thus disadvantaged by comparison with their norm-referenced high school counterparts (though no more so, presumably, than some other provincial high school students). The College also diverges in requiring its students to acquire Letter of Attainment in four subjects per grade and completed certificate in each Grade from 7 to 10, whereas provincial high schools examine six subjects over the four years from Grades 7 to 10 as a single unit for the School Certificate. The period of time over which correspondence students compile four subjects of a grade and the need for some COES students to take subjects irregularly makes these procedures more sensible for correspondence students.

K. Management

The College has both public management and professional management structures. The public structure entails lay participation through the Governing Council and its committees, while the professional structure embraces the College Konedobu headquarters and the provincial academic operations. The two structures join at particular points to ensure the effective management of the College.

1. Public Management Structure

The College is managed by a Governing Council which is in turn responsible to the National Education Board. It is through the National Education Board that the Papua New Guinea Government maintains a relationship between public and professional participation in education. The College of External Studies Governing Council is not directly represented on the National Education Board.

The Governing Council of the College of External Studies operates under a constitution approved by the National Education Board in May 1983. The constitution determines membership, functions, committee and delegated powers of the Council and defines the Council's relationship with the College academic and professional activities. Membership of the Council includes representatives of the National Education Board, the Department of Education, the College's students and the College staff.

These represent a sound balance between lay and professional participation, although by its location in Port Moresby, it is evident that all members will reside in the National Capital District, in view of its nationwide responsibilities and the increasing investment in provincial operations.

The structure and function of the Council are designed to ensure public regulation of the College contribution to Papua New Guinea's educational objectives. Hence, it is important that the composition of the Council be increasingly national, from lay and professional sectors.

2. Financial Management

The College's financial management is vested in the principal, through the finance committee of the Governing Council. Recurrent funding for the College includes a variable basic grant from the Department of Education, student fees, the sale of materials to schools and study centers, and occasional non-recurring grants are made for specific

projects. Although an educational institution, the College financial operations are only partly those required of schools (grants), and partly, those of a private enterprise business (direct income from fees, financing of capital expenditures from own bank account, etc.). This provides the College with considerable flexibility but also with some irksome limitations. The flexibility occurs in the College's freedom to raise commercial loans to finance expensive production machinery, for example. The most serious limitations are the uncertainty of the amount and timing of the basic grant, the need to have considerable funds tied up in the advance production of study materials and the uncertainty over enrollment patterns and hence, income from fees. A further limitation is the requirement to fund ancillary staffing from current fees.

In recent years, the net effect of these limitations has been a series of crises in the College's routine operations – primarily as a major shortage of study materials, a consequent drop in enrollments and a reduction of the fees needed to finance the further production that would have alleviated the problem; and secondly, in erratic or reduced employment and payment of ancillary staff and distance teachers. Under present financing arrangements, the College must consider limiting enrollments per course to the level of study materials available at any given time, encouraging enrollments but delaying study until the fees can be used to produce study materials, increasing enrollment fee substantially, suspending some courses so that production can proceed with others, seeking commercial sponsorship of study materials and laying off ancillary staff or employing them on a spasmodic basis.

The implementation of any of these measures introduces reverberations that take considerable time to work through the College's planning and production systems are compounded if new financial crises arise before existing ones are resolved. To be effective, the College needs stable financial procedures. It should be able to plan, budget and account over longer periods that are appropriate for conventional schools and are possible at present. Consideration should be given to the use of the block grant system, perhaps on a triennial basis, which could cushion the College from unexpected variations in its funding, or to the adoption of a long-term development plan that includes budgetary provisions.

3. Academic Management

The College's academic management is devolved from the Governing Council, through its Academic Advisory Committee (Board of Studies), to the professional staff of the College.

- (i) *The functions of the Academic Advisory Committee* are to supervise and guide the College program, to maintain a balance between components of the program, to ensure realistic relationship of the program to other parts of the education system and to the social climate of the country, to moderate, evaluate and approve College courses and assessment methods and to oversee the memberships and activities of the various subject syllabus committees. Membership of the Academic Advisory Committee is drawn from senior curriculum officers, university extension and technical division of the College's Deputy Principals. An active and informed Academic Advisory Committee is clearly essential to the efficient operation of the College and of its continued professional development. With a constant and regular turnover of professional staff, the Academic Advisory Committee is the body responsible for long-term continuity in academic program. In the face of regular intakes of expatriate contract officers, the Committee must exercise its responsibility for seeing that College courses and programs are in the long-term interests of Papua New Guinean society.
- (ii) *The professional staff of the College* is organized on a departmental basis similar to a conventional high school, with the notable addition of a deputy principal with specific responsibility for curriculum. (A second deputy principal has specific responsibility for services.) All curriculum development course-writing procedures, editorial decisions, academic staff training and operation of the College's course fall within the province of the Deputy Principal (Curriculum).
- (iii) *Academic Advisory Subcommittees* oversee curriculum development and course writing in each subject. Membership of Advisory Subcommittees comprises the subject head of department, appropriate curriculum officer, university representative, employers and practicing high school teachers.
- (iv) *Course writing in the College* proceeds to an established routine. Major course projects begin with an analysis of the relevant high school curriculum and a proposal by the writers. This syllabus is progressively refined by the Deputy Principal, the Subject Head (Curriculum) and the Advisory Subcommittee. This process can be constructive and productive, as it draws on the experience of a wide and reasonably representative range of qualified people. The process can also be protracted, unproductive and frustrating when personnel change.

Course writing can be further delayed by the need to constantly train new officers, periodic depletions of course-writing teams and the loss of experienced officers.

4. Registry Staff

Under the general direction of the Deputy Principal (Services) and the specific management of the Academic Registrar, the Registry staff of ten services the College's academic and administrative life. Aside from providing the foregoing services, the Registry is responsible for maintaining the College's services to provincial centers and study centers. Staff are paid in two scales, some on the public service scale and others on the lower basic scale for ancillary staff. Problems arise for the College when public service staff move to other sectors, as replacements must then be paid from College funds.

L. Resources

Implementation of the College's instructional activities depends upon an efficient system of production, storage and distribution of its study materials. The College's current production services include layout and design of study booklets, printing, compiling, storage and despatch to provincial centers and Commerce Certificate students. This element of the College's activity distinguishes it from conventional secondary schools in Papua New Guinea even more clearly than its teaching.

Given the continuous enrollment and assessment policies of the College, it must have study packages readily available for students at different points in all of the courses. In addition, it must anticipate the pattern of new enrollments and implement advance production accurately enough to meet new students' needs from stocks printed before students' fees have entered the College's financial structure. Production must also be coordinated with course-writing schedules, the availability of layout and design assistance, the number, location and productivity of printing machines, storage space and stock held in the College store and in provincial centers, and the reliability and cost of the distribution system.

- (i) *Production Officer*: Presently, responsibility for coordination of production, storage and distribution rests with an officer equivalent to Senior Subject Master at EO3 level. The practice of appointing a contract teacher to this position has been suc-

cessful to date, although one teaching department is thereby deprived of an especially skilled teacher and each new incumbent must relearn the management system.

- (ii) *Storage and Distribution:* Storage and distribution patterns have changed with the recent development of provincial centers. Study materials, once stored at Konedobu and airmailed to individual students or centers, are now despatched in bulk to order from provincial centers where delivery is completed. Konedobu now carries reserve stocks only. This change has brought savings in postage and has considerably reduced the time students must wait for delivery of study materials. It has also placed responsibilities on the provincial centers for ordering realistically, storing efficiently and recording accurately the flow of study materials.
- (iii) *Printing:* As print will continue to be the major medium of COES study for the foreseeable future, there is a clear need for the College to have a dependable and low-cost printing service available on a year-round basis. The regular flow of reasonable cost materials cannot be ensured if work is contracted to private or other government printing agencies and, in common with all correspondence institutions of similar scale, the College should control a printery geared to its own special requirements. This would entail modern machinery owned or leased by the College, printery staff in the employ of the College, with working hours and printing schedules under the control of the Production Officer.
- (iv) *Computer Technology:* Making effective decisions about production depends on having access to accurate information on the pattern of enrollment, the stock available and materials in production. There has been difficulty in maintaining an efficient relationship between the course-writing schedule in the College and the flow of printing which must take account of enrollment, courses available, required study books, paper and the main store. The widespread location of provincial centers, the present variability in enrollment patterns from province to province, the vagaries of communication, and the imprecision of the current system for ordering study materials, create management problems whose solution require much more precise data than can be presently provided. The computerization of the production data has resolved many of these problems. In the process, a significant contribution has been made to the financial management of the College, as

production overruns, shortrun reprints, excessive storage and emergency despatch charges have been minimized. A major economy in retraining new production staff has also been effected and continuity in production is automatically ensured over the period of transition from one Production Officer to the next.

M. Sale of Resource Materials

Some of the College's correspondence lesson materials is available for sale to high schools and other agencies as supplementary aids to classroom teaching. The availability of material is limited by the College's own immediate requirements, the capacity of the College's printery to produce surplus stock and the financial constraints imposed by funding such advance production out of current fees.

Open Learning and Educational Technology

Perhaps the effectiveness of distance education in PNG can be enhanced by maintaining its structure of open learning. Correspondence teaching, where the written word is the main source of instruction, can easily lend itself to open learning. It allows the students to choose their own time of study, place to study and method of study. On the other hand, COES does offer tutorial sessions at fixed times in the provincial centers. The centers provide motivation, counselling, fast and easy delivery of course materials and marked assignments which can otherwise be frustratingly slow due to the poor means of communication in different parts of the country.

The use of satellite television broadcasting facilities in distance teaching is not available in PNG. Due to a limited clientele of distance learning at tertiary level, the instructional use of radio broadcast is not in operation. The use of telephone tutorials is still in its infancy.

COES employs radio broadcasts and uses cassette tapes in areas where the radio reception is poor to supplement correspondence teaching. The latter provides a better opportunity for open learning. Computers, teaching machines and other teaching-learning gadgets are not employed. The educational technology still has restricted use in PNG. In fact, its application in PNG faces a dilemma, as use of some techniques of mass media technology is not advisable due to a small number of students. On the other hand, distance teaching requires the use of other media, in addition to the written word, to be fully effective. The

existence of such a type of situation limits the impact of distance teaching in the educational developments of PNG.

N. Personnel

Programs and courses of study are the visible outcomes of the interaction of education purposes, skilled personnel, material resources and an effective management policy.

Professional Staffing

Entitlement: The College has a professional staff entitlement of 21. Neither the original nor the present rationale for this number is clear, as there is no accepted relationship between student numbers and teaching staff as there is in conventional high schools. In the past, the College has had both fewer students and more staff. Temporarily unfilled positions have sometimes been cut permanently from the College's entitlement, creating marked imbalances in some subject areas and a tendency to fill positions at any cost.

The rationale for the structure of the entitlement is based on the organization of a conventional high school that is, principal, deputy principal, subject heads of departments and subject teachers. The College has adopted this structure to its particular needs by establishing two deputy principals (DP Services and DP Curriculum) and by referring to its teachers as "course writers". In 1984, the College was staffed to its full entitlement. With its present entitlement it is unlikely that the College could anticipate offering up-to-date courses in all of its present subjects or offer the full range of high school courses in the foreseeable future.

Appointment and Contract: Staff are selected, interviewed and appointed through the National Institutions Division of the Department of Education. Contracts are normally for three years, in the first instance, and are to the Department of Education, not the College. Included in the contract of expatriate appointments is a requirement to train national officers to assume the position on completion of contract.

The requirement does not appear to be provided for in the staffing entitlement nor are national staff necessarily appointed for matched training. As the continued development of the College must lie with Papua New Guinean educators, more attention should be given to the matched training of national officers. (A suitable model for matched training has been implemented by the Subject Head of Humanities.)

Conditions of Service: The College is regarded as equivalent to a

high school, and professional staff enjoy teachers' conditions of services in salary, leave, inspection, promotion, transfer and housing. Duties entail course writing, overseeing of the standards of work of distance teachers and examinations. Job specifications for principal, deputy principals, heads of subject departments, OIC production and registrar include management of staff and resources both in the College and in its provincial centers.

Conditions of service that observe normal school terms, etc. are at odds with the College's year-round program of correspondence teaching and examination. If the College is to maintain continuous services to its scattered learners and to its provincial centers (and to maintain or preferably speed up its course writing and revision), then conditions of service more appropriate to its function need to be introduced.

Qualifications and Duties: The College has developed as a provider of secondary schooling and secondary teachers are appointed as they would be to a conventional high school. However, as the College is a correspondence institution with no classrooms, classes or daily lessons, staff do not "teach" in the conventional sense but develop, write or revise correspondence courses. (In this sense, COES staff are more akin to curriculum officers than high school teachers.) It is accepted that high qualifications do not necessarily make for high-quality teaching. Equally, it is the case that the high-quality classroom teacher is not necessarily a high-quality course writer. Clearly, the skills are different and for more appointees, a period of adaptation, on-the-job training and experience of the culture (for expatriate officers) is needed before reasonable productivity can be expected.

Similarly, the daily organization and operation of the College differ vastly from a conventional high school, particularly in financial management, production and despatch of study materials, operation of a large clerical and ancillary staff and supervision of provincial units (each with staff, resource material, financial and property and elements of their own). Hence, some staff not only have duties of conventional secondary teachers but also outside their area of qualifications.

Continuity, Career Prospects and Training: The College has a regular turnover of staff. Between 1981 and 1986, all but three staff have moved to other positions in Papua New Guinea or have been repatriated. Several reasons explain this constant turnover of staff — high numbers of short-term contract expatriate officers; low numbers of national officers attracted to course writing or to career prospects with the College; the appeal of proper "teaching" or senior positions in schools to teachers unsuited to the relative isolation of course writing. Whatever the reasons, the consequences for the College are that at any given time, there

are several new staff learning the job as well as adapting to the culture, there is constant disruption to long-term writing projects, there are frequent switches in directions as new staff develop previously incomplete projects to their own strengths and there is a steady loss of personnel who are approaching their most productive period after three years adaptation, training and experience.

The training of course writers must proceed simultaneously with actual course writing. A training manual for course writer has been developed recently and should increasingly inform course-writing procedures. However, some balance between training requirements and productivity must be maintained, especially as course writers' skills will eventually be lost to the College while the demand for course materials is an ever-present reality. Hence, it is important that course-writing and on-the-job training be both continuous and individualized.

O. National Policy on Distance Education

State-supported distance education systems are part of a country's overall education plan. It is the educational policy which will determine whether distance education is to parallel or complement conventional education, to cater to specific groups in the population and to receive the resources needed to maximize the positive characteristics of distance education. These resources are not fixed — they are relative to the value placed on distance education as a national resource.

P. Distance Education in Papua New Guinea

There is considerable potential for distance education to assist in achieving the educational objectives of Papua New Guinea.

- (i) The population is dispensed through 19 provinces separated by barriers of mountain, sea, valley and forest. Travel is difficult and expensive and the only practical communication is by air. Regular schooling will be difficult for some, impossible for others, whereas distance education can be extended in some form to most.
- (ii) Not all children attend community schools and, of those completing Grade 6, the majority will not gain places in provincial high schools. Hence, school leavers seek further educational opportunity that is not available by conventional means. Whether formal or informal, such opportunities can be made available through the self-instructional procedures used in distance teaching and learning.

- (iii) Of those who attend provincial high schools, about half complete Grade 10 and many of these will not gain employment or entry to national high school Grades 11 and 12 or university matriculation classes. Of those who enter government services or commerce, many will seek upgrading of qualifications or extension into job-related skill. Such on-the-job training or extension of general educational level for adults can be most conveniently met by the flexible schedules of distance education.
- (iv) There is great demand for instruction in English language and relative shortage of well-qualified teachers. Using distance education techniques, a small cadre of well-qualified teachers can be made available to a large number of students. Using English speakers to prepare instructional materials for all subjects ensures continuous exposure to quality English throughout a course of study.
- (v) Not all schools can provide qualified instruction in all subjects. Distance education courses can be used to supplement a school's program, thereby increasing flexibility, subject choice and capitalizing on expert teaching, without losing tutorial oversight of students' progress.
- (vi) Distance education can make an important contribution to the social, economic and educational goals of Papua New Guinea, and the College of External Studies is uniquely placed to contribute to this development.
- (vii) The College of External Studies is quite different from other educational institutions in Papua New Guinea. Its special nature should be acknowledged by documentation, representation, funding, staffing and operation.
- (viii) In the short and medium term the College's greatest contribution will be made in developing the areas of secondary and commercial education. Longer-term consideration could be given to the College's possible role in teacher education, technical and agricultural courses, non-formal and community adult education.

Q. Ancillary Staff in Provincial Centers

Centers with enrollments in excess of 200 place administrative and clerical demand that cannot be met by coordinators without extensive weekend and evening work. As the center is open and attended by students continuously, the coordinator cannot attend to both immediate demands and the ongoing demand of distance teachers, visits to study centers, college returns, etc. Clerical assistance is needed in such centers and should be provided by the College on a regular basis. Provincial

support could be sought for such ancillary staff but continuity would be best secured by vesting control and payment through the College. In some provinces, additional teachers have been proposed in lieu of clerical assistance. At the present time, the greatest need is for clerical support for the coordinator and consideration should be given before introducing more teachers into the provincial center.

The present method of funding the College from fees, annual grants and periodic supplementary grants should be replaced by a block grant system projected triennially. The triennial grant should be based on a development plan which project enrollments, fees, forward production, capital equipment and ancillary staffing costs.

The College should develop a substantial staff training program, with the major aims of increasing productivity levels in course writing and increasing the long-term involvement of Papua New Guineans in the College's operation. The program should include training in the College, in the provincial centers, overseas courses and exchanges and some distance study opportunities.

Approved training courses should enhance the retention of staff in the College or be conditional on reasonable bonded service. Priority areas for training national staff are educational administration, course writing, production, and business and financial management.

The support of international agencies should be sought in recruiting directly from established distance education agencies, on contract or bonded exchange, expatriate officers who are already experienced or trained in distance education methods.

As a matter of urgency, the College should have its own computer facility for information processing, students' records, word processing and graphics, and financial management.

Distance education is distinguished from conventional classroom education by the distance between learner and teacher and the reliance on print and other media for teaching and learning. Distance education has attributes which make it advantageous in some circumstances and disadvantageous in others. Any provisions made for distance education reflect priorities in overall education policy. If equal opportunity is a national objective then distance education is an essential service for much of the population. If specific groups are to be given priority then distance education can be focused primarily, or solely, at that group. Papua New Guinea has characteristics of geography, culture and national development that suggest a major role for distance education.

Distance Education in the Philippines

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DISTANCE EDUCATION AND ITS DEVELOPMENT IN THE COUNTRY

A. Country Concept of Distance Education

In the Philippines, distance education using a multimedia approach, is understood as an educational innovation that seeks to deliver instruction to people who have no access to schools, colleges and universities or to those who, for one reason or another, cannot profit from the conventional system. Distance education is viewed as an alternative rather than a replacement for formal education. It is also regarded as a delivery system for development courses that need immediate implementation like nutrition education, energy conservation and entrepreneurship.

B. Review of Distance Education Projects in the Country

Distance education has existed for some time in the Philippines. It has been used in the following programs/projects:

1. *The School Broadcast Program (SBP)*

The SBP was launched in 1959 by the Bureau of Public Schools, in cooperation with the Philippine Broadcasting Service. It was started to provide teachers and pupils in rural and isolated areas with valuable and up-to-date materials through the radio.

The broadcast centered on selected subjects in the regular elementary school curriculum. These were generally for enrichment purposes.

The Australian Government extended assistance in putting up this school broadcast service.

Objectives

The objectives of the school broadcast in the different series are as follows:

Filipino Language, Grade 1

- (i) to provide the children with simple listening and speaking vocabulary through the radio;
- (ii) to develop the habit of speaking in a natural tone;
- (iii) to overcome the dialectic inflection when speaking;

- (iv) to acquire the habit of correct usage and expression;
- (v) to help propagate the Filipino language; and
- (vi) to develop a common understanding among Filipino children.

English, Grade II

- (i) to develop the habit of listening attentively;
- (ii) to provide children with simple listening and speaking vocabulary;
- (iii) to develop ease and naturalness of expression;
- (iv) to acquire habits of correct usage and expression;
- (v) to provide the children good models of speech; and
- (vi) to stimulate children's interest in language expression.

Physical Education for Grade III

- (i) to provide the children exercises for developing correct posture, grace rhythmic response alertness and accuracy in following directions as well as enjoyment and relaxation.

Music for Grade IV

- (i) to provide the children exercises in time and tone; and
- (ii) to enable the children to get acquainted with the different musical instruments and hear selections by some of the world's greatest composers.

Adult Education

- (i) to provide adults with wholesome as well as valuable information designed to enhance further the development of better skills and competencies in community living.

Social Studies, Grade IV

- (i) to help enrich social studies lessons by presenting simple dramatized situations corrected with the course of study; and
- (ii) to present materials related to character education.

English for Teachers

- (i) to acquaint teachers with the principles and techniques of language teaching.

Operations

The Bureau of Public Schools, through its Radio Education Unit, prepared and wrote the scripts for the different broadcast series. The programs, however, were produced at the studios of the Philippine Broadcasting Services (PBS). The PBS provided the services of technicians and allowed the use of its studio facilities. It also aired the programs over its radio network.

At the listening end, the participating schools were equipped with radio sets, some donated by the Australian Government while others were owned by the teachers or schools.

The teacher, who was earlier oriented on the classroom use of the broadcasts, performed the following activities:

- (i) conduct pre-broadcast sessions;
- (ii) listen to broadcast together with the pupils;
- (iii) hold post-broadcast sessions; and
- (iv) prepare evaluation report.

To guide the teacher in the aforesaid activities, copies of the Teachers' Notes and Wall Sheet, containing valuable details of the broadcasts, were given to her beforehand.

The accomplished evaluation forms were submitted to the Bureau of Public Schools to serve as guide for the planning of future programs.

Target Clientele

The following were the target clientele of the program:

- (i) Elementary school pupils and teachers; and
- (ii) Adults

Broadcast Series

The broadcast series consisted of the following:

- (i) Filipino Language
- (ii) English (for children)
- (iii) Physical Education
- (iv) Music
- (v) Social Studies
- (vi) Adult Education
- (vii) English for Teachers

Enrollment Procedures

Since the school broadcast program was free, children, teachers and adults could avail themselves of the service without enrolling.

Materials

A team of scriptwriters in the Radio Education Section, Bureau of Public Schools prepared and wrote the scripts for the different broadcast series. They were assisted in this work by the producers. The programs were then recorded on tapes at the PBS studios. Broadcast materials such as Teacher's Notes and the Wall Sheet (containing the schedule of the broadcast including the topics to be taken up) were also prepared by the Bureau of Public Schools. These guides were distributed free to teachers with listening classes/groups.

Financing the SBP

Expenses for the preparation of the scripts, payment of talent fees, and purchase of recording tapes were shouldered by the Bureau of Public Schools.

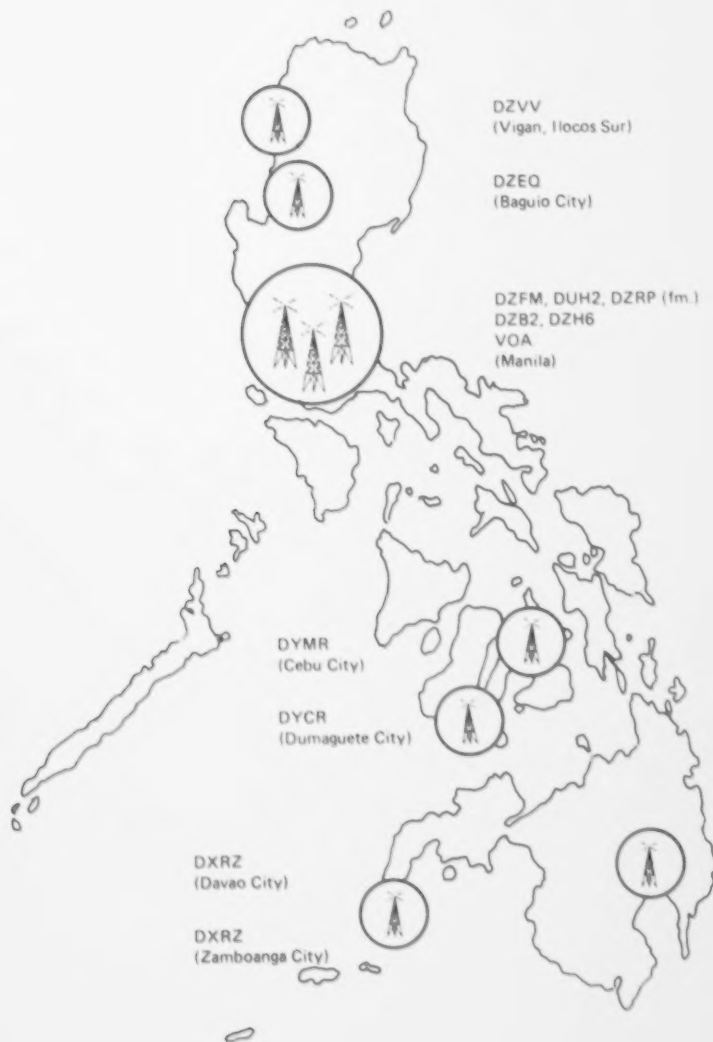
The PBS, on the other hand, took care of the expenses related to studio facilities, services of technicians, and airing of the programs. (Figure 1 shows the radio stations airing the school broadcast as of the second semester, 1963-1964.)

2. The Continuing Learning Delivery System (CLDS)

Program Description

The CLDS is a program of the Bureau of Continuing Education (formerly Office of the Non-Formal Education) Ministry of Education, Culture and Sports designed to meet the needs of those who would like to avail themselves of the opportunity to raise their educational level without going through the formal classroom system. On the basis of surveys conducted by the Office of Non-Formal Education, there is a significant number of school-leavers who desire to continue their studies but feel they are too old to return to the grade level they left or cannot attend the formal school system because they are employed or occupied during school hours.

Fig. 1. STATIONS AIRING THE SCHOOL BROADCASTS AS OF THE SECOND SEMESTER
SCHOOL YEAR 1963-1964



Objectives

The CLDS program aims to:

- (i) enable elementary school-leavers who are of high school age and secondary school-leavers who have qualified in the Philippine Educational Placement Test (PEPT) for high school level to continue their studies;
- (ii) extend educational opportunities to working groups, housewives, maids and employees who have not completed the secondary level, the physically handicapped, as well as others who have not completed high school and are interested in raising their educational level; and
- (iii) enable the secondary school-leavers to progress in their studies at their own rate, in their homes or in any place convenient to them using self-learning modules and other media, and thereby may pave the way for them to rejoin the mainstream of formal education.

Operation

The basic operational unit of the system is the CLDS Study Center designated by the Schools Division Superintendent. In every study center, there is a district coordinator who is responsible for the enrollment or listing of participants. The coordinator interviews the applicant to determine whether or not he can be admitted to the program. If the applicant is deemed capable of carrying on the study by himself, he is then introduced to his tutor in the different subjects.

The learner studies on his own the modules issued to him and does the check-up exercises after each lesson/activity. As instructed in the module, he is expected to re-study the module until he can adequately answer the check-up questions.

After completing one module, the student reports to the tutor, who after checking the students' self-administered test gives him the next module.

A mid-course test is prepared and administered in the CLDS Study Center after the student has completed half the course. If the student performs satisfactorily, he is given the succeeding modules. Another assessment by the District CLDS Council will be made at the end of the course. All final tests for each course shall be prepared and administered by the Division Council in consultation with the tutors.

A student who finishes all the four-year level courses and passes the

required examination, is awarded a certificate signed by the principal, the district supervisor and the schools superintendent attesting that he is a graduate of the secondary curriculum. He is then qualified to take the National College Entrance Examination (NCEE).

Target Clientele

The following are qualified to enroll in the CLDS:

- (i) elementary school-leavers, of high school age and having been out of school for at least two years, who are qualified in the PEPT and have been placed at high school level; and
- (ii) secondary school-leavers who have left school for at least two years, working parents, housewives, the physically handicapped, housemaids and other who are qualified and interested to raise their educational level but cannot, for certain reasons, attend the formal system.

Courses Offered by CLDS

The following high school subjects are offered by CLDS:

- (i) Communication Arts: English
- (ii) Sining ng Wika: Pilipino
- (iii) Araling Panlipunan
- (iv) Science
- (v) Mathematics
- (vi) Practical Arts

Enrollment Procedure

An applicant presents himself/herself to any member of the District CLDS Council for interview, advice and possible registration and enrollment. He submits the following:

- (i) Any of these credentials:
 - (a) Report Card/Form 138; or his Elementary School Certificate;
 - (b) Certification from the Principal of the school last attended attesting to the grade level;
 - (c) Joint affidavit (duly notarized) of two disinterested persons testifying to the grade level/year level of the applicant; or

- (d) For elementary school-leavers, the result of the PEPT;
and
- (ii) Three ID pictures (1" × 1").

The student shall pay a total of P120.00 as course fee per year, and thereupon he is issued a Registration/ID Card with serial number. He is then ready to participate in the program.

In case a CLDS participant transfers to another district (division/region) due to unavoidable circumstances, he may continue his studies there provided that he gets a certificate of transfer and clearance from the District CLDS Council in which he is enrolled and reports to the District CLDS Council of the new district to present his clearance, certificate of transfer and receipt of the fee he has paid.

A student can start and finish the course at the time and pace most suited to him. The program's learning system is self-paced.

Materials

A group of curriculum writers for the different subject areas produce the modules necessary for the CLDS clientele during workshops held for the purpose. The modules are based on the new Secondary Education Curriculum. Consultants for each area are requested to guide the writers during the Workshop. Then a pool of editors finalize the texts and lay out the final format for printing.

The CLDS modules have built-in assessment system. After each lesson, the student takes a self-administered test to find out how much he has learned or if he needs to study the lessons again or to consult a tutor.

The District NFE Coordinator also assesses the progress of the student from time to time. The District CLDS Council gives the final assessment after the clientele's final examination on the different areas of study to determine whether he has earned his credit or not.

To improve future CLDS modules, tutors are advised to submit their remarks and recommendations on: content, mode of presentation, style, method of evaluation and assessment, etc. These reactions are to be submitted at the end of each school year to the District Supervisor who shall transmit them to the Division Superintendent. He, in turn, hands them over to the Regional Director who finally forwarded those consolidated comments to the Minister of Education Culture and Sports (Attention: Bureau of Continuing Education).

Meanwhile, tutors are instructed to simply prepare supplementary test materials for each objective.

Financing of the CLDS

Conformably to MECS Memorandum No. 127, s. 1982, a fee of P120.00 shall be paid by each student for a one-year level course. This amount shall be divided and intended for the following:

- (i) 30 per cent – Bureau of Continuing Education to be used in the production of instructional materials; this remittance should be accompanied by the list of students who are enrolled in the division or region;
- (ii) 10 per cent – Regional Office to include expenses of supervisor in charge of the program;
- (iii) 10 per cent – Division Office to include expenses of officials in charge of the program;
- (iv) 10 per cent – District Office to include expenses of officials involved in the program; and
- (v) 40 per cent – District CLDS Council for tutors.

All disbursements made relative to the operation of CLDS is charged against the amount retained in each office subject to the usual auditing and accounting rules and regulations.

3. *The Rizal Experimental Station and Pilot School of Cottage Industries' "Balik-Paaralan" Scheme*

Program Description

"Balik-Paaralan" is an innovative program of education bridging the gap between formal and non-formal education. It is a formal curriculum, a recovery curriculum, an employment curriculum, and also a promotion curriculum with vocational education as the principal feature. But there is an interconnection between academic and vocational activities at all times. It also creates a broad highway which a student may travel as far as his/her talent and desire will permit.

The out-of-school youth may have dropped out of school sometime in his elementary or high school years but through the years has learned skills and knowledge through informal and non-formal education. These experiences, knowledge and skills acquired will be assessed and given credit so he could continue his schooling through the "Balik-Paaralan" Scheme.

This program is also designed, to prepare student for work in one or more broad career fields, not for a narrow range of specific jobs. It

does not cut students off from proceeding to higher education; rather it allows them to proceed after school to job of their choice or to further education.

It thus aims to encourage out-of-school youth and adults to return to school for further training and upgrade their educational attainment. This will enable them to earn their high school diplomas outside the school system while on the job or whether at home doing their home projects.

Objectives

The "Balik-Paalaran" Scheme is intended to help the economically and culturally deprived youths and adults enjoy a better quality of life through efficient and effective implementation of activities and acquiring experiences designed to:

- (i) help the youngster acquire the basic occupational skills, knowledge and information essential for obtaining initial gainful experience in cottage industries;
- (ii) help individual who have re-entered school to adjust to the school environment and to his new functions;
- (iii) further the education of out-of-school youths and adults, develop their skills, re-orient their values and enable them to live a normal productive life; and
- (iv) provide a flexible learning situation in order to maximize material, human and community resources.

Operations

The school-leaver who desires to re-enter the formal education will first be assessed in the skills and knowledge he has accumulated through informal and non-formal education through the years that he left school. The experience that he has gained will be evaluated and given credit in addition to the individual's performance in the qualifying examinations. With the use of different evaluation instruments, his experience and performance will determine his grade placement in a certain subject or curriculum year in which he will start off.

Once the individual is in, his teacher will give him a set of modules. This is a package or set of materials prescribed for a curriculum year but are divided into parts and in order of difficulty to be given one at a time to the school-leaver. Each package contains the lessons and activities the learner is going to undertake. This module package is brought home by

the leaver and after a certain period of time which has been previously arranged, he reports to his teacher for consultation, conference and evaluative test. Once he passes the test, he is ready to go further and is given another set of module. Evaluation of activities from time to time will be done by the teacher with the help of a checklist or any other evaluative instrument.

While one learner can finish the set of modules for a certain subject in a curriculum year in three to six months, while another learner may do it for over a year. Thus, the learner's progress in accomplishing the modular lessons will be self-paced, depending on his own individual capabilities and performance.

Target Clientele

This scheme is especially designed for:

- (i) school-leavers who are above the normal schooling age but still wish to continue their studies;
- (ii) school-leavers who are self-employed or wage earners;
- (iii) school-leavers for at least two years at the time of application or except on meritorious cases wherein they could no longer attend regular classes in school such as:
 - (a) marriage
 - (b) employment
 - (c) poverty
 - (d) illness
 - (e) incapacity
 - (e) others.

Courses Offered by the Scheme

The "Balik-Paalaran" Scheme offers the approved academic and vocational courses for high school. From time to time subjects are being reviewed so that learners will not be behind their educational experiences.

Enrollment Procedures

A school-leaver can only be admitted if:

- (i) he is medically and mentally fit;
- (ii) he passes the literacy and numeracy test (qualifying exams);

- (iii) he passes the assessment tests for the different subject disciplines;
- (iv) he has stopped schooling for sometime or is presently employed; and
- (v) he has the ability to pay the authorized fees.

When an applicant enrolls he has to present his credentials for the last high school year he attended and a letter justifying his reason for availing himself of the "Balik-Paaralan" Scheme. He also has to be interviewed before being accepted in the school. The required school fees may or may not be paid immediately on enrollment day.

Materials

The modules are prepared by a writing team composed of the regional and district supervisors, subject specialists and consultants in modular instruction and evaluation. They are low-cost materials based on learning needs and level of understanding of the program's target clientele. Contents and strategies are also based on the new Secondary Education Curriculum.

Students return the modules at least once a week, at the same time evaluate learning outcomes after using them. If a student has no problem regarding the first set of modules, he can get another set of modules to take home.

Financing the "Balik-Paaralan" Scheme

Funds for the implementation of the "Balik-Paaralan" Scheme are derived from the national fund as provided in Republic Act No. 4571 which was approved on 19 June 1965 (an Act providing for the establishment, operation and maintenance of an experimental station and pilot school of cottage industries in the municipality of Pasig, then under the province of Rizal). Since 1974, the Rizal Experimental Station and Pilot School of Cottage Industries (RESPSCI) has been receiving funds for operating its programs including personal services and maintenance and other operating expenses.

The "Balik-Paaralan" Scheme being one of the programs of RESPSCI gets its financial requirements from that fund and other funding assistance that are granted in different occasions.

4. The University of Life Home Study Program

The University of Life (UL) was formally inaugurated on 11 June

1980 pioneering in the democratization of education in the Philippines. Its goals are based on the premise that education should provide equal opportunities for success to everyone. One of its implementing programs towards the attainment of its goals is the Home Study Program under its Lifelong Education Department.

The UL Home Study Program (ULHSP) learning system is different from the formal educational system in the following ways:

- (i) It is a self-paced learning system, whereby a learner or student sets his learning schedule;
- (ii) It is a learning-by-doing system;
- (iii) It is a cost-saving system because it does not require impressive school buildings nor expensive campuses to maintain its operation. Aside from studying, the lessons can be done at home, thus saving on transportation and dormitory costs;
- (iv) It is a fast accelerating system because once the coursewares or learning packages are prepared and printed, a field-delivery system takes over in the dissemination process through a network or institutional linkages; and
- (v) It is needs-oriented because it aims to widen the educational opportunities for a greater number of individuals according to their own needs and interests.

The ULHSP supplements the home study nature of the system with actual demonstration and face-to-face interaction between the learner and the Instructional Manager or resource person.

Objectives

The objectives of the ULHSP are three-fold:

- (i) To participate in the development of livelihood resourcefulness through a non-formal education program;
- (ii) To provide educational opportunities for those who cannot avail themselves of the formal educational system; and
- (iii) To develop coursewares aimed at bringing new technologies to professionals and progressive citizens of the country.

Operations

The ULHSP may be availed of by individuals of varied educational background including professionals. They are to study the self-instructional materials, perform the learning activities and complete the

self-evaluation tests in the different learning modules. Practicum may be done in their place of work or nearby study centers. These will be evaluated either on a self-evaluation scheme or on a supervised evaluation scheme depending on the requirements of the module. A UL designated Project Administrator (PA) will supervise the programs in his assigned area. A UL designated Instructional Manager recommended by the PA serves as tutor and facilitator of the learning system on the course assigned to him.

A "Manual for the Learner" is available at cost at the start of the training sessions to guide the participant on how to adjust his activities under the ULHSP.

Upon completion of the requirements of a particular coursewares, the learner may, if he so desires, take a final examination which will be administered by ULHSP designated examiner. Successful completion of the final test entitles the learner to a UL Certificate of Proficiency. The head of the cooperating agency or institution becomes a co-signatory of the certificate.

In the ULHSP approach, the concept is "self-discovery" by the learner. The responsibility of learning is placed on the learner. Thus, it requires a high level of motivation and diligence on his part.

The learner is given minimum assistance by the Instructional Manager since the ULHSP module does much of his work as a teacher. The Instructional Manager will facilitate the activities of the learners such as bringing them together to visit a farm, listening to a resource person, or seeing an actual demonstration of a technical skill as demanded by the course.

Target Clientele

The target clientele of the program are:

- (i) out-of-school youth from the rural and the urban areas;
- (ii) unemployed persons needing skills in order to qualify for a job;
- (iii) retirees and housewives who clamor for opportunities to earn a living in order to supplement meager income;
- (iv) underemployed and employed persons who need in-service training to keep pace with the rapidly advancing technologies in their respective fields of specialization; and
- (v) a great multitude who yearn for education but due to various constraints cannot have access to the formal educational system.

Courses Offered by the ULHSP

The UL introduces the Proficiency Curriculum to serve the more urgent need of the masses to increase productivity, technical proficiency and skills development.

Courses under this curriculum are for those who have sufficient reading and writing skills to enable the student to use the courseware. These courses are about food production, energy conservation, ecology and entrepreneurship.

Enrollment Procedure

Applicants to the Proficiency Curriculum must have the following qualifications:

- (i) can read, write and comprehend the printed instructional materials. Hence, he must be at least a high school graduate or must be able to pass the Survey of Abilities Test prepared by the ULHSP for this purpose;
- (ii) willing to follow all instructions of the Instructional Manager and those in the learning modules; and
- (iii) can pay all the fees.

Registration is open anytime of the year. The Project Administrator, however, will decide when and where the following activities are to be held:

- (i) Survey of Abilities Test (for high school graduate);
- (ii) orientation meeting;
- (iii) demonstration sessions; and
- (iv) actual instruction.

Ordinarily, the Instructional Manager can start the instructional activities when there are at least ten registrants per course.

Materials

The principal instrument for teaching the ULHSP courses is the learning module which is used interchangeably with the term ULHSP module. The learning module is a set of teaching materials carefully designed to achieve well-defined objectives. The volume of the module

is equivalent to a one to three-hour lecture session in the formal educational delivery system. A set of learning modules put together to complete a self-learning course is a learning course in a learning package. The "teach, test, teach, test" style is currently utilized in the modules. Such modules are prepared by a Course Team, the operation of which are detailed in the Manual for the Preparation of Learning Modules.

Questions for self-evaluation and post-module test are included at the end of each lesson and module, respectively. Answers to the questions are given after the self-evaluation questions so that the learners can evaluate his performance immediately. The Instructional Manager may give short quizzes as well as practical tests to gauge the improvement of the learner. The result of the Instructional Manager's evaluation constitute 50 per cent of the final grade of the learner.

After completing a learning package, the learner is given a final examination prepared and provided by the ULHSP under the supervision of a designated person. If a learner passes, he is given a certificate of proficiency. The learning package becomes the learner's reference as he goes on to practice his newly acquired knowledge.

Financing the ULHSP

Below is the breakdown of fees which will be the basis of costing a learner:

(i) Registration			
(a) Honorarium for			
Instructional Manager		P 15.00	
(b) Honorarium for			
Project Administrator		5.00	
(c) Management Expenses			
- Cooperating Agency	P 5.00		
- ULHSP	<u>5.00</u>	<u>10.00</u>	P 30.00
(ii) Miscellaneous			
(a) Delivery (mailing,			
packaging, etc.)		10.00	
(b) Certificate			
		<u>5.00</u>	<u>15.00</u>
Total Fixed Cost			<u>P 45.00</u>
(iii) The ULHSP instructional materials at P6.00 per module -			
considered as variable cost.			

Total cost for instructional materials is computed based on the number of modules of one learning module.

5. The University of Mindanao On-the-Air (UM Air) Project

The UM Air operates a program for teacher education utilizing the radio station owned and operated by the University of Mindanao broadcasting network. The program offers an accredited graduate education course for public and private school teachers and other professionals who wish to pursue their studies but are prevented from doing so because of the distance of their place of assignments from the University. It is patterned after the Open University in the United Kingdom and Japan Nippon Hoso Kyokai audiovisual education project.

Objective

The main objective of the UM Air is to assist teachers in remote areas to obtain a Master's Degree at minimum expense through radio lecture and forums.

Operations

Radio stations utilized by UM Air are located in Davao City and Cotabato City. Packaged materials are distributed to these centers for use by trained radio lecturers, tutors and students.

Students of the UM Air must spend an orientation day at the main university campus to receive course materials and meet the tutors. Following this session, they must return to the campus for mid-term and final examinations, or for submission of term papers and other written requirements for the course.

To maintain academic standards, the distance Master's program uses the same syllabi and examinations as are used for on-campus students.

Target Clientele

The target clientele of UM Air are public or private school teachers and other professionals who desire to pursue a graduate course but cannot attend school regularly due to distance of school from home or work station.

Enrollment Procedure

Students go to the university campus on enrollment day with the prescribed credentials. They take an examination aimed to gauge their readiness for graduate studies. Then they wait for the announcement of their acceptance in the program.

Upon enrollment, students receive the learning materials and are given instructions on how to use them. They are also given counsel on how to meet certain problems regarding studying at a distance.

Courses Offered and Materials

Courses offered are the accredited graduate subjects in education and philosophy. Materials distributed on campus include a broadcast schedule, the course syllabi, modules, problems or guide questions to be answered in student workbooks.

Financing the UM Air

The project subsists partly on tuition fees charged to resident graduate school students of the University of Mindanao and an aid given by the Asia Foundation.

6. The Continuing Education of Teachers (CET)

The Continuing Education of Teachers is a distance study program of the Communication Technology for Education pilot project. This is designed to facilitate the mass training and academic upgrading of elementary school teachers through the use of radio with print and audiovisual as support media.

Objectives

The objectives of the CET are as follows:

- (i) to explore and evaluate the potential of radio supported by print and audiovisual media to impart conceptual knowledge, attitudes and teaching skills in various subject areas to elementary school teachers;
- (ii) to evolve an instructional model based on the first objective; and
- (iii) to enable teachers to upgrade themselves academically by the accumulation of proper credits for a graduate level degree.

Operations

CET is programed for three cycles where the first cycle is experimental and formative for each of the subject areas. The second and third cycles are the improved and revised transmission of the lesson.

The Educational Communication Office (ECO) is responsible for the overall management, administration and operation of the CET program. It coordinates and relates with the participating institutions at the national, regional, division and district levels. As such, CET within the ECO undertakes major activities like: the development and production of curriculum and media materials; the conduct of formative evaluation and utilization of materials, and overall evaluation of the effectiveness of the program.

Target Clientele

Elementary school teachers are the primary target clientele of CET inasmuch as they compose the majority in the teaching professionals assigned in both rural and urban areas.

Courses Offered and Materials

There are four subject areas offered that are designed to:

- (i) upgrade the teachers' mastery of contents and teaching skills on basic subjects of the elementary curriculum; and
- (ii) create a favorable attitude towards the concepts being introduced.

Moreover, the sustaining course on Educational Trends which serves as a "magazine on the air" is likewise envisioned to provide elementary school teachers with innovative approaches, strategies and new system and techniques on teaching. It is also intended to orient the target clientele on current news and programs for MECS.

CET uses trimedia materials like audiotapes, printed materials and forums conducted by a course facilitator who is given freedom regarding the sequence that best fits the course.

The radio lesson materials are prepared by the Curriculum Department and Production Unit while gathering of data for the improvement of the lesson materials — both broadcast and print — is a function of the Formative Evaluation Unit. On the other hand, the Utilization Unit trains forum leaders, conducts forum sessions and disseminates the media materials in the field.

Utilization of Existing Resources

In practice, distance education in the Philippines involves a combination of print, media and radio, generally reinforced through tutorial and practical lessons.

Print Media

The self-learning module is the most commonly used printed material by distant learners in the country. As an alternative, it has been found to be almost as effective as formal schooling. It is a self-contained, self-sufficient unit of instruction, designed to be managed by the participants or users rather than by an instructor. It contains the basic elements of instruction: objectives, learning activities and evaluation.

The modular approach has been found to be an effective and economical way of developing specific knowledge and skills. Because it is largely self-contained, it induces learning with a minimum of teacher direction and supervision.

Since a module often consists of self-contained modular units, its component units can be used singly or in combination with others in accordance with the varied interests and needs of users.

Radio

The print media depend on proper distribution and dissemination facilities. Unfortunately not all places are easily accessible and so some distance education programs in the country overcome this difficulty by using radio. Like in the UM Air and CET programs, the radio is used along with the print media at the teaching education level. Their radio facilities play a dual role not only transmitting "live" lessons but also broadcasting pre-recorded tapes for the lesson. Tapes serve the purpose of not only providing the lessons but of allowing repeated revision.

To ensure effectiveness of radio lessons, learners are given some reading materials to which they can refer when they listen over the radio. These materials are so designed as to draw the learners to participate by filling in checklists and other exercise or by reading portions of the lesson as told by radio instructors. Other media are already being considered for use by distance education programs in the country. These include the audio and videotapes, film strips, television broadcasts and computer system. The primary considerations, however, in utilizing these resources are the availability of technical and instructional expertise (preparation), the availability of studios and the need

for long-term planning (production), and student access to equipment (delivery). Also, financial consideration will have to be carefully studied. How much will these new investments cost?

7. Problems in the Implementation of Distance Education

Education in the Country

As an alternative to face-to-face teaching, distance education has yet to gain full acceptance in the country.

At present many students and educators still consider it to be second-rate and for those who cannot be accepted in the formal system. For them distance education is good only for school dropouts or out-of-school children and youth who wish to go back to school.

Funding is another problem to the full development of distance education. As it aims to provide learning opportunities to those who for socioeconomic reasons could not stay in school, it should, therefore, design a low-cost instructional system which require government support and subsidies. The expenses go to materials development, training of tutors and management of the system.

Reorientation and retraining of personnel for distance education are also required in order to ensure effectiveness in the management and operation of the system. This includes writers, technical support staff, instructional managers and tutors who have come from the formal system and who are used to traditional methods of education.

Another stumbling block in the implementation of distance education in the country is the dearth of appropriate learning materials for distance learning. Distance learners still depend on printed materials which they either rent or buy from study centers. To supplement these materials, they are allowed to use textbooks, experiment handbooks, workbooks, newspapers, magazines and other reference materials. It is thought that increased used of radio, broadcasts and the introduction of audiocassettes can solve this problem.

SCOPE OF FURTHER EXPANSION OF DISTANCE EDUCATION IN THE COUNTRY

Educators in the Philippines today are faced with challenges that in no historical period have demanded so much for their utmost concern. One of these challenges is the increasing number of school dropouts that in one or another suggests a need for reviewing the existing system of

delivering educational services to the masses. Although research studies have revealed that the dropout problem is primarily caused by poverty, one cannot just blame it on the socioeconomic predicament of the people. It is because school-related factors have also failed in part to keep learners in the classrooms.

In the light of these realities, educators are asked to develop and evaluate models of learning in which the learners' problems and concerns are the focus of all learning efforts. These models have to use elements of distance and independent learning to break down the classroom barriers with their entrusted teacher-learner-time-place relationship. The main consideration is what can be done to free learning from its present time-space-classroom barriers and make it a resource of life energy for many people as possible.

Possibilities or scope for expansion of distance education in the country can be tried out in the fields of: (i) formal education; (ii) non-formal education; (iii) technical/vocational education; (iv) women's education; (v) population, agriculture and health education; (vi) rural and underprivileged populations; and (vii) others.

Formal Education and Staff Development

Studies on factors affecting learning indicate that the teacher factor is particularly of prime importance in any level of education. Moreover, even when educational technology is used in classrooms, it appears that teacher preparation and teacher follow-up are very necessary. It has been an accepted notion that the teacher makes formal education possible, and that with a poor teacher, classroom learning can fail. What more with few experienced teachers in specific subjects? What more with few or substandard types of educational materials and classrooms?

These problems of formal education can be solved through distance education. There is potential for distance education as (i) an alternative route to regular elementary (primary and intermediate) and secondary programs; and (ii) a supplement to regular teaching in subject areas where teachers are not available or are inadequately qualified for the curriculum. In the former case, a proper mix of in-school and out-of-school programs can achieve a degree of "labor-capital substitution".

In the Philippines, the In-School-Off-School Approach (IS-OSA) was primarily conceived in response to a need for seeking alternatives to traditional school systems generally existing in Third World countries. The projection of a runaway population that would more than double school enrollments together with the inability of the Government to provide sufficient facilities and teachers for increased enrollments were realities that demanded early solutions for the Philippine situation.

The IS-OSA advocates the placement of 80 pupils under one teacher who may be helped by other resource persons in the community. The class is so divided into two equal groups at random, making sure that there is an equal distribution of sexes. One group does in-school work while the other do off-school work, which mainly consists of ranking self-learning kits (SLKs). The groups alternately report to school except when class participation is required. When children report to school after a week of off-school work, their first activity is to take post tests based on the self-learning kits they worked on. They chartered their own progress and the teachers adapted their teaching to individual learning needs based on feedback from such tests. The rest of the week is devoted to either reinforcement of an old learning or presentation to new learning in preparation for the next SLKs. Before the children leave the school on the last day of the week, they check out SLK to work on off-school. Aside from this, they are given short-term tasks or mini assignments presented on a sheet of paper designed to strengthen certain skills needed in independent study. High achieving children are encouraged to check out more than the average number of SLKs since they are capable of tackling more and to prevent them from being idle.

The SLKs for the different subject areas which are prepared by trained writer-teachers are self-instructional and appealing so that children can manage by their own learning and are parcelled and sequenced in such a way that effective learning is assured.

Distance education is potentially one way of providing in-service training to teachers. It cannot be denied that direct programs for teachers are very expensive that distance education can provide low-cost training programs for would-be teachers as well as those in the service who desire to raise their professional level.

Teacher-training institutions in the country, other than the Baguio Vocational Normal School which handles the CET and UM Air Programs may be encouraged to establish a center for external studies within their premises, where teachers can enroll for short or long-term and degree or non-degree courses and study independently at a distance.

A. Non-Formal Education and Technical/Vocational Education

Distance education trials in teaching livelihood skills to out-of-school youth and adults, including professionals, have been handled by the University of Life Home Study Program (ULHSP). As stated earlier, the courses offered under ULHSP are relatively those that promote income-generating projects. Instruction that is carried out

through self-learning modules developed by course is taken-up at designated non-formal education centers with the guidance of trainers in vocational/technical subject areas.

It has been noted that learning livelihood skills at a distance is favorably accepted by non-formal education clientele. The remoteness of the teacher is overcome by using appropriate materials that: (i) contain fully worked problems; (ii) test prior knowledge; (iii) supply charts, photographs, diagrams, graphs, etc.; (iv) utilize various feedback techniques, e.g. assignments, commentaries, etc.; (v) give instructions for site visits to relevant projects; (vi) refer the reader to associated work areas for comparison; and (vii) provide expected answers, e.g. typical short answer essays, etc.

Not all materials contain all of these but most contain at least some tests, problems, etc. and can be read by students preparing for examinations (written or practical) so that they know what the lecturer/tutor will examine in the course. The study materials and practical work are designed to give the non-formal education clientele the background he needs to help him acquire proficiency in a trade or simple knowledge and skills in relevant development issues.

The knowledge and skills that the non-formal education clientele can derive from printed study materials and practical work can be best supplemented by radio and TV programs. It is true that production costs of radio and TV programs are relatively high but considering the large non-formal education audience in the country, fixed costs per head are considerably reduced. This is something the Government has to consider in making decisions for the education sector, particularly continuing non-formal education.

B. Women's Education

Many government and non-government agencies in the Philippines are engaged in training programs and projects for women. These are the Bureau of Women and Minors, Ministry of Labor and Employment; Bureau of Family and Child Welfare, Ministry of Social Services and Development; Bureau of Continuing Education, School Health and Nutrition Center and Population Education Program, Ministry of Education, Culture and Sports; Nutrition Center of the Philippines; Population Commission; Philippine Rural Reconstruction Movement; Bureau of Agricultural Extension, Ministry of Agriculture and Food; and various religious groups. Their programs stress on livelihood skills development, literacy education, home management technology, and attitudes and values development. The most common strategies or delivery

system that they employ are forums, demonstration lessons, small learning group sessions and short-term courses. Meanwhile, their objectives are directed towards improving the status of Filipino women in the home, at work and in the community. An interesting program for women which can be replicated or expanded through distance education techniques is the International Institute of Rural Reconstruction (IIRR) of IRR's Training Rural Women Leaders project. This project recognizes that women, aside from their multiple roles as housekeepers, mothers, wives and farm workers, have the potential for active participation in development through organized economic and social activities under indigenous leadership.

The women are invited to attend a three-day course with emphasis on leadership and technical skills, the first day is on leadership training; the second day, technical skills on food preservation, care and management of pigs and chicken, and candy making; the third day, practicum and field visit and graduation.

Besides this course, women are also encouraged to attend seminars on maternal and child health, herbal medicine, and nutrition and other home-related subjects. After the training they are expected to organize special interest groups in their respective communities, initiate and promote group projects in collaboration with other barangay scholars; attend continuing training activities and cooperate with the village rural reconstruction committee.

IIRR admits, however, that most of their women clientele find difficulty in attending regular training activities because of their responsibilities in the home. Providing them with alternative means of gaining knowledge and skills without requiring them to leave the house or to perform other functions in their place of work will be possible via distance education. Self-learning packages containing printed materials, audiotapes and slides can be very helpful to them. These, in addition to scheduled group dynamics sessions, field visits and practical work, will upgrade the learning capabilities of Filipino women.

C. Population, Agricultural and Health Education

Radio and television programs in the country have proven to be very useful in disseminating information about population, agricultural and health education. Through this program, a large portion of the population is reached daily. This means that one or two thirty-minute programs daily once or twice a week can teach family planning techniques, responsible parenthood, new farming methods, food preservation, other income-generating activities and health and sanitation practices. However, an evaluation/monitoring system has to be devised

to know the impact of the radio and TV programs on the listening public. Thus, to make the learning continuum complete, proponents of said programs should clarify their objectives, strengthen the delivery of contents and test achievements of listener. In so doing, the broadcasts will take the form of a school on-the-air giving opportunities for participation of the public.

PARTICIPATION BY NON-GOVERNMENT AGENCIES

A. Educational Television

The Metropolitan Educational Television Association, Inc. (META) started with a pioneer project called the National Program of Instruction by Television in secondary schools purposely to familiarize school administrators and teachers on the secondary level with the medium of television and to encourage them to use television for instructional purpose.

Stress was given to regular courses of instruction. The first course presented for the year 1964-65 was Physics for high school. The course utilized the team teaching approach which involved close participation between the studio instructor and the classroom teachers.

The second course was English. It consisted of a series of 65 fifteen-minute televised English lessons produced by the United States Information Service (USIS). In 1965-66, it was used as supplementary material in the teaching of first year high school English.

Each lesson utilized dramatized situations, sentence and phrase analyses and drills. Emphasis was on basic and commonly used English structures that presented problems for foreign speakers. The educational television series of META provided the students with opportunities to improve their oral and written English, as well as their concepts and skills in Physics.

Funds for the educational television series were derived from the contributions of META members and the Food Foundation grant. This funding limitation caused the eventual ending of operations of the educational television series.

B. Correspondence School/Institute for Distance Education

In the Philippines, distance study structured around the correspondence format is offered by two known institutions: the local chapter of the International Correspondence School (ICS) and the Asian Institute

for Distance Education (AIDE). These institutions provide educational programs to those who want to pursue higher education but find it impossible to do for one reason or another.

1. The International Correspondence School (ICS)

Among the courses offered by ICS are as follows:

Business

Public Accounting
Bookkeeping
Business Administration
Basic Management
Advanced Management
Hotel/Motel Management
Technology
Cobol Programming
Marketing Management
Sales Management
Shorthand, Typing &
Office Practice
General Psychology
Industrial Management

Electronics

Commercial Radio
Computer Engineering
Electronics Engineering
General Electronics
Industrial Electronics
Radio/TV Servicing

Building and Construction

Civil Engineering
Architecture
Building Contractor
Construction Engineering
Highway Engineering Tech.
House Planning & Interior
Design
Plumbing
Pipe Fitting

Structural Engineering
Interior Design

Electrical

Electrical Engineering
Electrical Appliance Servicing
Practical Electricity
Electric Motor Repair
Industrial Electrician
Industrial Maintenance

Industrial Technology

Mechanical Engineering
Machine Shop Practice
Industrial Air Conditioning
Industrial Engineering
Industrial Instrumentation
Technology
Quality Control
Refrigeration & Air
Conditioning
Safety Engineering
Technology
Combination Welding
Power Plant Engineering

Automotive

Automotive Engineering
Automotive Diesel Gas
Mechanic
Basic Diesel Mechanic
Automotive Electrical
Systems
Heavy Duty Mechanics

General

Design and Creative	Water Color Painting
Embroidery	Basic Commercial Art
Combined Dressmaking	Interior Decorating
Pattern	Business Letter Writing
Cutting and Designing	Effective English
Freelance Journalism	Practical English
Short Story Writing	General Agriculture
Cartooning	Others
Leisure Art	

The specialized courses are:

- D-C Principles
- Electrical Measurement and Instruments
- Electronics Instrumentation and Control
- Introduction to Microprocessors
- Practical Mathematics and Measurements

For those who plan to take the Certified Public Accountant examination but do not have the time for formal classes, ICS provides a comprehensive and complete review by mail.

ICS awards certificates to successful correspondence students. These certificates, though, cannot be used as bases for promotion in public offices, neither can they be given credit in both public and private schools. However, most ICS graduates claim that they owe much of their professional growth to the training they got from the ICS system.

2. The Asian Institute for Distance Education (AIDE)

AIDE utilizes the non-formal delivery system of instruction with government accreditation for its academic programs. It allows students to enroll individually through the AIDE offices or at pre-designated centers close to his place of work. When a student enrolls for a particular semester in a degree or non-degree program, his enrollment remains in effect until he completes the semester requirements. As a general rule, the student is given only one year for enrollment within which to complete the semester requirements.

The distance study program is divided into semesters with corresponding units of credits for particular subjects. The student is credited with the units corresponding to each subject completed and passed.

Basically, the student shall receive instruction through self-instructional modules, known as the AIDE Learning Series, which shall be delivered to him at the AIDE office or by mail.

A course or subject ordinarily consists of five self-learning modules, each one of which has three or more lessons. Each module, in pamphlet form, contains a study guide or syllabus, a list of required readings and supplementary information, and specific lesson assignments. Additional media, such as cassette tapes and records and instructional kits, may further expand the scope of independent study. All of these materials provide a basic focus and discipline and maintaining communication with the AIDE office or any of its designated centers.

The students shall learn from the modules by accomplishing each one according to his own pace. Modules shall be given or sent to the student, one after the other, upon satisfactory completion of the preceding ones as determined by AIDE evaluators. When a student completes and passes all the required modules in a particular subject, he takes a final examination in person either at the AIDE office or at a pre-designated center. He acquires credit units only after passing the said examinations. After completing all the units requirements of the program enrolled in, his scholastic records shall be processed and submitted to the Ministry of Education, Culture and Sports for approval of his work and the granting by AIDE of an appropriate certificate or diploma, as the case may be.

AIDE offers five programs: the Baccalaureate Program; the Junior College Program; the High School and Elementary Placement Review Course; the Professional Development Program; and the Skills Development Program.

(i) *The Baccalaureate Program*

- (a) Four-year liberal arts course, leading to the degree of Bachelor of Arts (A.B.) General, or with major in Economics, English, History, Mathematics, Political Science or Sociology.
- (b) Four-year business course, leading to the degree of Bachelor of Science in Business Administration (B.S.B.A), major in Management.

(ii) *The Junior College Program*

- (a) Associate in Arts (A.A.) consisting of roughly one-half the requirements of the General A.B. Program.

(iii) *Placement Review Course*

- (a) Review classes in English, Pilipino, Mathematics, Natural Sciences, Social Sciences, 30 hours each designed to prepare registrants for placement examinations given by the National Educational Testing Center of the Ministry of Education, Culture and Sports for grade placement purposes.

(iv) *The Professional Development Program*

- (a) Seminar-type designed for executives, supervisors and other professionals who desire further exposure to enhance their executive capabilities.

(v) *The Skills Development Program*

- (a) Designed for those who feel the need for training in specific job assignments to improve productivity levels in both business and industry.

GOVERNMENT POLICIES AND PLANS REGARDING DISTANCE EDUCATION

The proposed new constitution of the Republic of the Philippines includes a provision on the development of a system of independent study and similar non-formal education activities including distance education. It is clear that the framers of this constitution recognize the potentials of distance education in enriching formal and non-formal education including the education of out-of-school children, youth and adults.

The draft chapter on Education and Manpower Development of the proposed Medium Term Plan, 1987-1992, of the Republic of the Philippines, contains the following objectives:

- (i) To improve the quality and increase the relevance of education and training;
- (ii) To increase access of disadvantaged groups in all educational areas;
- (iii) To accelerate the development of middle-and-high-level manpower required by economic recovery and growth as

- well as enhance their employability, productivity and self-reliance;
- (iv) To inculcate values needed in social transformation and renewal;
 - (v) To preserve, enrich and propagate the nation's desirable cultural heritage and legacy;
 - (vi) To raise the level of awareness, interest and participation in sports and cultural activities; and
 - (vii) To maintain an educational system that is truly Filipino in orientation, open to constructive ideas from everywhere, but alert to influences inimical to national dignity.

During the plan period, access to quality education and training shall be expanded to insure the accommodation of a greater number of the school age population. Training programs of various agencies offering non-formal education and skills training is also expected to expand during the period 1987-1992.

The said plan also provides, among others, the development and use of non-traditional delivery systems including the open-school system, distance education and community-based training.

The present Minister of Education, Culture and Sports has likewise strongly encouraged the development and use of innovative delivery systems, in both formal and non-formal education. Distance education is one approach she has endorsed relative to the education of out-of-school children, youth and adults.

In line with the foregoing developments, the Bureau of Continuing Education has formulated plans of strengthening/expanding the distance education aspect of its continuing education program. The production of more modules under the Continuing Learning Delivery System is also planned. In this regard, additional funds for the said Bureau have been requested from higher authorities.

SCOPE FOR INVOLVEMENT OF INTERNATIONAL AGENCIES

In the light of the development plan of the Philippines, projects on both formal and continuing/non-formal education, utilizing distance education, would need technical assistance and/or financing from external sources to insure successful implementation. Assistance will be necessary in the following aspects/areas:

1. Staff Development

Funding support will be helpful in the training of writers, tutors and facilitators in both print and electronic media. The services of consultants and resource persons, coming from both the Philippines and other countries have to be secured whenever necessary. In addition, transportation and other expenses of participants have to be taken into account. Moreover, funds have to be provided for the procurement of the needed supplies and materials.

2. Production of Training Materials

Funds have to be set aside for the preparation and printing of needed materials in distance education. These instructional guides/aids will help facilitate the proper utilization of distance education materials by the intended learners. Sending these materials to the different regions would also need appropriations.

3. Purchase of Cassettes, Tapes, etc.

The procurement of certain items necessary for the implementation of an effective distance education program would likewise need funds. These materials include tapes, etc.

4. Honoraria of Subjects Experts, etc.

Funds would likewise be necessary for the payment of honoraria of experts in certain subject areas for their services. These experts would of course devote extra time and effort in the production of distance education materials.

5. Monitoring and Evaluation

In the implementation of distance education, monitoring and evaluation would be an important component. In this aspect, funds would be necessary for travel, preparation of forms and accomplishment of reports.

On the whole, distance education if given full support and attention by all concerned, could satisfy the educational needs of a big sector of the country's population, especially the out-of-school children, youth and adults.

SUMMARY

In the Philippines, distance education, using a multimedia approach, is understood as an educational innovation that seeks to deliver instructions to people who have no access to schools, colleges and universities or to those who, for one reason or another, cannot profit from the conventional system.

Distance education has existed for some time in the Philippines. It has been used in the following programs/projects:

a) *The School Broadcast Program (SBP)*. This program, which was launched in 1959, was a joint project of the Bureau of Public Schools and the Philippine Broadcasting Service. It was started to provide teachers, pupils and adults with valuable and up-to-date materials through the radio.

b) *The Continuing Learning Delivery System (CLDS)*. A project of the Bureau of Continuing Education (formerly Office of Non-formal Education), the CLDS is designed to meet the needs of those who would like to avail themselves of the opportunity to raise their educational level without going through the formal school system.

c) *The Rizal Experimental Station and Pilot School of Cottage Industries "Balik-Paaralan" Scheme*. "Balik-Paaralan" is an innovative program of education bridging the gap between formal and non-formal education. Self-learning modules, prepared by experts, are the principal instructional materials used in this project.

d) *The University of Life Home Study Program (ULHSP)*. This program makes use of the concept of "self-discovery" by the learner. The responsibility of learning is greatly placed on the learner.

e) *The University of Mindanao On-the-Air (UM Air Project)*. UM Air offers an accredited graduate education course through the radio for public and private school teachers and other professionals.

f) *The continuing Education of Teachers (CET)*. CET is a pilot project of the Communication and Technology for Education to facilitate the mass training and academic upgrading of elementary school teachers through the use of radio with print and audiovisuals as support media.

As an alternative to face-to-face teaching, distance education has yet to gain full acceptance. Funding is a major problem to the full development of distance education. Reorientation and retraining of personnel are also needed to ensure effectiveness in the management and operation of the system. The dearth of appropriate learning materials for distance education is another stumbling block in the implementation of the program.

Possibilities for further expansion of distance education in the Philippines can be tried out in both formal and non-formal education, as well as in other fields like women education, etc.

A number of non-government agencies have started projects/experiments on distance education. The Metropolitan Educational Television Association (META), had a pioneer project called the National Program of Instruction by Television in Secondary Schools. Distance education, structured around the correspondence format, has been offered by two non-government institutions, namely: (i) International Correspondence School (ICS) and (ii) Asian Institute for Distance Education (AIDE).

Distance education has been given due recognition and importance in the country's overall educational policies and plans. The proposed new constitution includes a provision on the development of a system of independent study and similar non-formal education activities including distance education. The Chapter on Education and Manpower Development of the proposed Medium Term Plan, 1987-1992 of the country, provides, among others, the development and use of non-traditional systems including open-school system, distance education and community-based training. The Ministry of Education, Culture and Sports has likewise strongly encouraged the use of distance education for out-of-school children, youth and adults.

In the light of the development plan of the country, technical assistance and/or financing from external sources may be needed in the following aspects/areas: (i) staff development; (ii) production of training materials; (iii) purchase of cassettes, tapes and other materials; (iv) honoraria of subject experts, etc., and (v) monitoring and evaluation.

Summing up, with the concerted efforts of all concerned, distance education as a non-traditional approach, could provide educational opportunities to a big sector of the country's population, especially those who cannot avail themselves of formal education.

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5. Primer on Non-formal Education, MECS, 1983
6. The Development of the School Broadcasts Program, 1959-1964, A.U.
7. Manual of Information, Rizal Experimental Station and Pilot School of Cottage Industries, 1986
8. Adventures in English (A Televised Series), Metropolitan Educational Television Association, Inc., 1964
9. Bulletin of Information, Asian Institutes for Distance Education, 1986
10. The Continuing Education of Teachers (Handout)
11. University of Life Home Study Program (Handout)
12. University of Mindanao On-the-Air (UM Air) Project (Handout)

Appendix
Page 1

EDUCATION STATISTICS (1985)

A. Population as of 1985

	All Age Group	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and above
Male	27,437,246	1,445,513	4,538,132	4,164,194	6,531,719	3,576,148
Female	27,231,086	1,360,333	4,302,983	4,308,070	6,615,666	3,781,757
Total	54,668,332	2,805,846	8,841,115	8,472,264	13,147,385	7,357,905

Source: Population Projections for Philippines and Its Provinces: 1980-2030 (Series 2: Moderate Fertility Decline and Moderate Mortality Decline), National Census and Statistics Office (NCSO).

Population With Rural-Urban Breakdown*

Region	Urban	Rural	Total
NCR	6,942,204	0	6,942,204
I	1,026,947	2,875,640	3,902,587
II	437,233	2,083,741	2,520,974
III	2,558,445	2,897,695	5,456,140
IV	2,825,091	4,264,277	7,089,368
V	932,855	2,988,695	3,921,550
VI	1,527,579	3,564,830	5,092,409
VII	1,435,596	2,759,419	4,195,015
VIII	717,494	23,355,271	3,072,765
IX	526,359	233,610	2,862,969
X	968,584	2,209,792	3,178,376
XI	1,363,896	2,472,340	3,836,236
XII	559,681	2,038,053	2,597,734
Total	21,821,760	32,846,572	54,668,332

* No available data on age breakdown of rural-urban population.

Source: Projected Total Urban and Rural Population for the Philippines by Region and Its Provinces: 1980-2030, National Census and Statistics Office (NCSO).

B. Educational Institutions**Enrollment for Different Levels***
(1984-1985)

1. Primary Schools - 9,027,735
2. Secondary Schools - 3,341,030
3. Degree Colleges - 1,127,968 (Includes graduate, degree,
and non-degree students)

* No available data on breakdown of boys/girls enrollment.

Appendix
Page 3**Tertiary Education Enrollment in Government and Private Institutes
by Region, School Year 1984-1985 (Degree)**

Region	Government	Private	Total
NCR	4,812	297,800	302,612
I	9,360	41,891	51,251
II	3,980	14,081	18,061
III	9,121	45,331	54,452
IV	7,550	48,521	56,071
V	9,877	31,972	41,849
VI	12,367	70,543	82,910
VII	4,410	58,196	62,606
VIII	12,563	18,595	31,158
IX	10,380	23,017	33,397
X	8,697	41,537	50,234
XI	3,573	47,567	51,140
XII	3,221	23,567	26,788
Total	99,911	762,618	862,529

Source: Bureau of Higher Education, MECS.

**Tertiary Education Enrollment in Government and Private Institutes
by Region, School Year 1984-1985 (Graduate)**

Region	Government	Private	Total
NCR	501	2,349	2,850
I	0	1,063	1,063
II	184	769	953
III	269	688	957
IV	143	891	1,034
V	0	830	830
VI	580	1,839	2,419
VII	404	1,544	1,948
VIII	744	121	865
IX	298	598	896
X	536	1,218	1,754
XI	0	1,305	1,305
XII	32	602	634
Total	3,691	13,817	17,508

Source: Bureau of Higher Education, MECS.

4-5. Enrollment in Engineering

Region	Number of Students		
	Male	Female	Total
1. Ilocos	16,284	3,722	20,006
2. Cagayan	3,071	719	3,790
3. Central Luzon	15,093	3,816	18,909
4. Southern Luzon	5,551	1,285	6,836
5. Bicol	5,774	1,251	7,025
6. Western Visayas	16,784	3,195	19,979
7. Central Visayas	22,342	3,079	25,421
8. Eastern Visayas	4,025	1,048	5,073
9. Western Mindanao	3,721	747	4,468
10. Northern Mindanao	8,494	1,915	10,409
11. Southern Mindanao	9,607	1,993	11,600
12. Central Mindanao	4,928	847	5,775
13. N C R	115,237	20,894	136,131
Total	230,911	44,511	275,422

Source: Bureau of Higher Education, MECS.

Enrollment in Medicine - 14,456

Enrollment in Teacher Education

Non-Degree	Degree	Graduate	Total
1,165	131,581	7,785	140,537

Source: Bureau of Higher Education, MECS.

4-5. Enrollment in Agriculture (cont.)

Region	Number of Students		
	Male	Female	Total
1. Ilocos	1,438	2,032	3,470
2. Cagayan	1,193	864	2,057
3. Central Luzon	2,033	1,558	3,591
4. Southern Luzon	1,823	1,982	3,805
5. Bicol	5,540	2,004	7,544
6. Western Visayas	2,459	2,264	4,723
7. Central Visayas	1,822	1,690	3,512
8. Eastern Visayas	1,575	1,738	3,313
9. Western Mindanao	1,580	1,280	2,860
10. Northern Mindanao	1,899	1,189	3,088
11. Southern Mindanao	1,077	684	1,761
12. Central Mindanao	1,741	1,148	2,889
13. N C R	2,355	1,167	3,522
Total	26,535	19,600	46,135

Source: Bureau of Higher Education, MECS.

**6-7. Tertiary Education Enrollment in Government and Private
Institutes by Region, School Year 1984-1985 (Non-Degree)**

Region	Government	Private	Total
NCR	9,467	69,240	78,707
I	2,052	10,892	12,944
II	1,710	4,111	5,821
III	1,817	16,309	18,126
IV	4,025	11,367	15,392
V	1,968	11,999	13,967
VI	2,490	25,881	28,371
VII	3,629	20,728	25,029
VIII	5,025	6,801	11,826
IX	2,426	5,794	8,220
X	1,267	10,322	11,589
XI	1,090	10,342	11,432
XII	847	6,332	7,179
Total	37,813	210,118	247,931

Note: Data are based on a retrieval rate of 78 per cent.

Source: Bureau of Higher Education, MECS.

**C. Distance Education and Status of Broadcasting, Printing and
Postal Services in the Country**

One of the Distance Education institutes we have in our country is REPSI which stands for Rizal Experimental Station and Pilot School of Cottage Industry. This institution has two programs: the regular program and the Balik-paaralan program. It also offers vocational courses as well as home study program from first year to fourth year high school. To date, they have more than 3,000 enrollees.

Another educational institution that offers distance education program is the La Concordia College. They have four main courses namely: the functional literacy, vocational (dressmaking, cooking and cosmetology), continuing learning delivery system and refresher course from second year to fourth year high school.

Its enrollment data since its establishment last July 1983 was as follows:

- 1983-84 - 40 students
- 1984-85 - 25 students
- 1985-86 - 35 students
- 1986-87 - 105 students

They also have satellite schools which is composed mostly of charity schools like the Immaculate Heart of Mary College, Sta. Isabel College and San Juan de Dios Hospital.

1. Radio Facilities (Production and Broadcasting Facilities for Educational Programs).

The national communication network is composed of 12 regions and each has its assigned frequencies are in terms of kilohertz.

The techniques or methods of communication is grouped into four as follows: Regions I, V, IX; Regions II, VI, X; Regions III, VII, XII and Regions IV, VIII, XI. The purpose of this is to avoid interference or crowded line in communication transmission.

In addition to this, there are almost 98 units of radio facilities nationwide.

However, there are also divisions in the different regions which do not have units. They only have assigned frequencies connected to RCPI. These are:

Region

I	Dagupan
II	Basco, Batanes
III	Tarlac, Olongapo, Malolos, Cabanatuan City, Iba, Zambales
IV	Batangas, Mamburao, Sta. Cruz (Laguna), Calapan, Sn. Jose, Sn. Pablo City, Palawan (Balabac, Culion, Buswangga)
V	Iriga City
VI	Cadiz City, Sn. Carlos, La Carlota, Bago City
VII	Toledo City
IX	Basilan City, Tawi-Tawi
X	Ozamis City
XI	Tagum (Davao), Tandag (Surigao), Liangga (Surigao)
XII	Maguindanao

Their latest proposal is the organization of MECS Key Official Communication Facilities with mobiles and repeaters.

TV Facilities (Production and Broadcasting Facilities for Educational Programs).

Five television networks are operating in the country. These are channels 2, 4, 7, 9 and 13. The said TV stations could come up with

educational programs. At present, the educational television programs presented are *Sesame Street*, *Quiz Bee*, *Batibot*, *Tele-Aralan*, and others.

Number and Percentage of Electrified Village

As of July 1986, a total of 19,323 barangays (villages) have been energized. This number represents 56 per cent of the total barangays (villages) in the country.

All municipalities within the franchise area of MERALCO (Manila Electric Company) have electrical services. These include 100 municipalities and 9 cities in Quezon, Cavite, Bulacan, Metro Manila and portion of Batangas.

Private utilities and cooperatives also provide electrical services to places not covered by the MERALCO franchise area.

Status of Printing Facilities in the Country

There are two government-owned printing presses and 750 private-owned companies in the country. These figures were taken from the yellow pages of the Philippine Long Distance Telephone Company directory.

Source: Radio Operation, MECS
National Electrification Administration.

Postal Services in the Country

Region	No. of Offices/Branches
I	217
II	149
III	156
IV	305
V	158
VI	210
VII	122
VIII	148
IX	133
X	142
XI	125
XII	116
NCR	49
Total	2,030

Note: Above is a partial list of regional post branches prior to the preparation of a directory by the Central Post Office.

D. MANPOWER REQUIREMENTS OF THE COUNTRY*
1985-1987

Male								
Ages								
Year	5 - 19	20 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - Over	Total
1985	1,463,374	2,197,412	4,309,971	2,607,446	1,662,363	969,133	459,159	13,668,858
1986	1,473,900	2,238,739	4,465,850	2,726,369	1,728,310	996,799	469,482	14,099,450
1987	1,481,339	2,278,526	4,606,560	2,861,287	1,861,287	1,800,627	479,999	14,533,487
Female								
Ages								
Year	15 - 19	20 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - Over	Total
1985	1,076,666	1,327,401	2,244,025	1,333,024	870,704	480,283	235,843	7,567,946
1986	1,103,901	1,369,171	2,350,933	1,411,390	916,808	504,167	250,077	7,906,447
1987	1,129,703	1,409,715	2,452,184	1,498,785	967,341	528,865	265,316	8,251,909

* Based on the Medium Assumption of the Project Population.

Source: Projected Labour Force Population by Sex and Age Group: Philippines, 1980-2000.

Distance Education in Sri Lanka

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THE NATIONAL EDUCATIONAL STRUCTURE

There are two Ministries overlooking and directing the national educational structure: (i) the Ministry of Education with which is associated the Ministry of Educational Services as a Project Ministry; and (ii) the Ministry of Higher Education in charge of universities and other institutions of tertiary education, mainly technical. The educational system of the country is broadly divisible into: three subsystems, namely: (i) General Education; (ii) Vocational/Technical Education; and (iii) Higher Education.

General Education is provided mainly within the formal school system. Pre-school Education is not a component of general education: Currently general education is divisible into: (i) Primary Education (Years 1-5); (ii) Junior Secondary Education (Years 6-8); (iii) Senior Secondary Education (Years 9-11); and (iv) Collegiate Level (Years 12-13).

Technical Education which has grown rapidly during the last few decades, is provided in 23 technical institutes spread across the country (see Map 1). These Polytechnical and Junior Technical Institutions offer a range of courses at different levels covering a wide range of skills. Apart from these there are a large number of middle level technical and vocational courses conducted by other Ministries and Agencies, as for instance the Ministry of Youth Affairs and Employment, the National Apprenticeship Board, and the National Youth Services Council (see Table 1).

Universities in the country are administered by autonomous councils of their own. But in order to provide common policy guidelines in academic, administrative and financial matters the University law provides for a University Grants Commission. The Ministry of Higher Education oversees both technical education and University education. (For the total educational structure of the country, see Figure 1.)

Sri Lanka has nearly 10,000 schools and a school-going population of over 3.5 million and nearly 150,000 teachers. According to figures as at the end of 1985, in terms of mass communication, there are 415,000 licensed TV sets and 2,073,000 licensed radio sets; the number of daily newspapers per 100 person is 19. Sri Lanka's literacy rate for males is 90.5 per cent and for females it is 82.4 per cent. (The position of national expenditure on all aspects of education is summarized in Table 2.)

MAP I

HIGHER EDUCATIONAL INSTITUTIONS AND TECHNICAL INSTITUTES

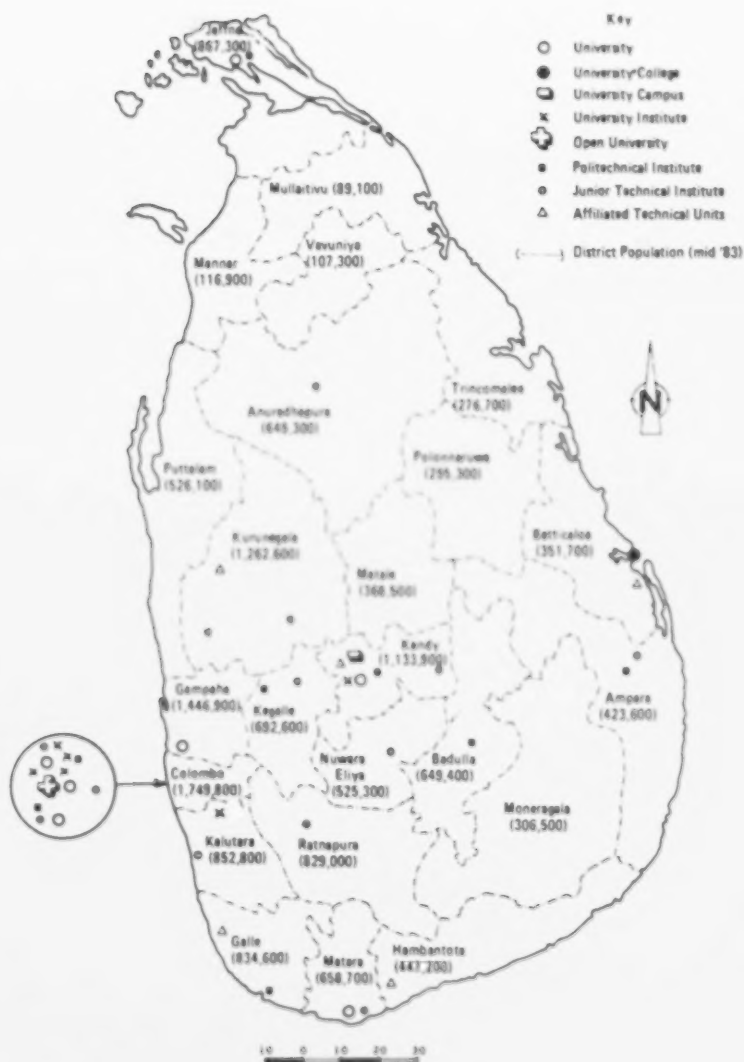


Table 1: Intake and total enrollment of students in technical institutes under the Ministry of Higher Education

Course of Study	Academic Year	Polytechnical Institutes		Junior Technical Institutes		Affiliated Technical Units		Total	
		Total Intake	On Roll	Total Intake	On Roll	Total Intake	On Roll	Total Intake	On Roll
Higher National Diploma	1983/84	815	3125	387	795			1202	3920
	1984/85	727	2163	248	669			975	2832
National Diploma	1983/84	624	923	—	—			624	923
	1984/85	688	1236	46	46			734	1282
National Certificate	1983/84	3793	4894	3256	4518			7049	9412
	1984/85	3332	4567	3015	4146			6347	8713
National Craft (Trade) Certificate	1983/84	627	782	652	1083			1279	1865
	1984/85	384	666	619	1063			1003	1729
Short Courses (Mainly intended for self-employment)	1983/84	218	218	211	211	146	146	575	575
	1984/85	202	202	191	191	107	107	500	500
Short Courses Offered to Other* Organizations	1983/84	1759	1759	2656	2656	580	580	4995	4995
	1984/85	1814	1814	2721	2721	938	938	5473	5473
Total	1983/84	7836	11,701	7162	9263	726	726	15,724	21,690
	1984/85	7147	10,648	6840	8836	1045	1045	15,032	20,529

* National Apprenticeship Board and Construction Industry Training Project. Under the Ministry of Local Government and Housing

Source: *Statistical Handbook 1984*, University Grants Commission, Sri Lanka (1986).

Fig. 1: EXISTING SYSTEM OF EDUCATION/TRAINING

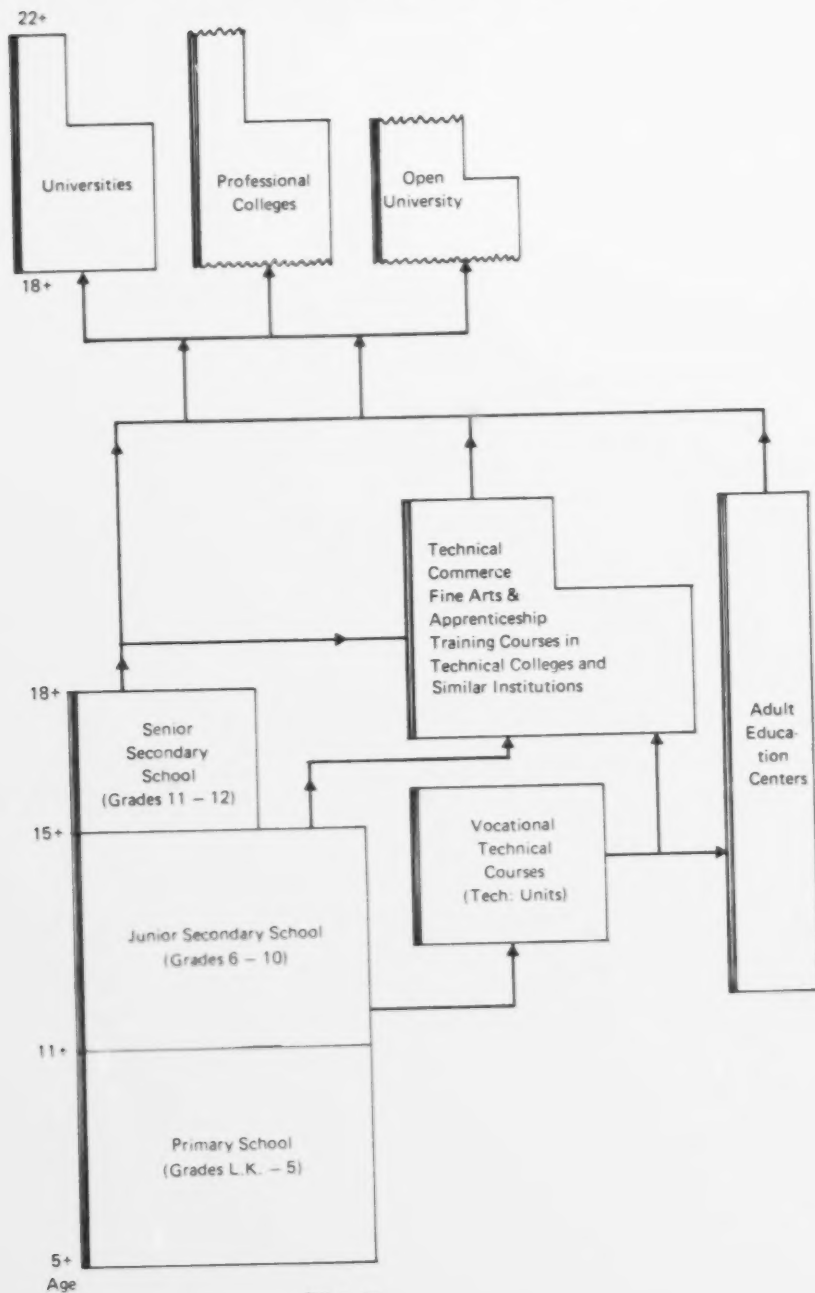


TABLE 2: EXPENDITURE OF EDUCATION

Year	(1) GNP at current factor cost prices (Rs. million)	(2) Total Expenditure on Education (inc. J & A (Rs. million)			(3) Expenditure on Higher Education (Rs. million)			(4) Expenditure on University Edu. (Rs. million)			(5) (4) as % of (1)			(6) (4) as % of (2)			(7) (4) as % of (3)			(8) (3) as % of (1)			(9) (3) as % of (2)			(10) (2) as % of (1)		
		Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total	Recur rent	Capi- tal	Total
1979	54680.5	1213.3	131.6	1344.9	114.7	44.4	159.1	99.9	25.9	125.8	0.18	0.05	0.23	8.23	19.68	9.35	87.10	58.33	79.07	0.21	0.08	0.29	9.45	33.74	11.83	2.22	0.24	2.46
1980	67905.9	1535.1	264.3	1799.4	136.8	141.6	278.4	118.5	127.8	246.3	0.17	0.20	0.37	7.72	52.14	14.24	86.62	91.32	92.06	0.20	0.21	0.41	8.91	53.58	15.47	2.22	0.39	2.65
1981	82814.2	1731.9	343.8	2075.7	161.0	172.0	333.0	139.1	170.4	309.5	0.17	0.21	0.37	8.03	49.56	14.91	88.40	96.27	91.57	0.19	0.21	0.40	9.30	51.48	16.28	2.09	0.41	2.50
1982	95559.0	2184.8	374.2	2559.0	198.9	223.0	421.9	172.9	203.2	376.1	0.18	0.21	0.39	8.00	54.30	14.87	88.93	91.72	89.14	0.21	0.23	0.44	9.19	59.59	16.62	2.27	0.39	2.66
1983	116037.7	2500.5	406.6	2907.1	261.7	250.7	512.4	217.6	226.3	443.9	0.19	0.19	0.38	8.70	55.66	15.44	93.15	90.50	86.79	0.23	0.21	0.44	10.47	61.66	17.63	2.15	0.35	2.50
1984	144159.5	2146.7	582.7	2729.4	298.1	293.5	591.6	249.8	320.5	570.3	0.15	0.22	0.39	9.09	55.00	17.13	93.80	81.45	82.46	0.21	0.27	0.48	10.85	67.53	20.77	1.91	0.40	2.31

Notes: *Provisional

Sources: For (1) Department of Census and Statistics

For (2), (3) and (4) Ministry of Higher Education and University Grants Commission

DISTANCE EDUCATION: FORMATIVE YEARS

Distance Education, as we understand it today, was introduced to Sri Lanka in 1976 with the establishment of the Sri Lanka Institute of Distance Education (SLIDE). The objective of the SLIDE was to provide tertiary level education in the fields of Mathematics, Science, Management and Technical Studies to those who were unable to continue higher education in the institutions of higher learning due to socioeconomic and other reasons.

SLIDE inaugurated and conducted four main programs. The programs and their objectives were as follows:

- (i) Higher National Diploma in Management Studies:
 - (a) to provide personnel for middle management positions; and
 - (b) to train personnel to start and run efficiently small industrial/agricultural units.
- (ii) National Diploma in Science and National Diploma in Mathematics:
 - (a) to provide an alternative path to higher studies in Science and Mathematics; and
 - (b) to meet the acute shortage of Science/Mathematics teachers in schools at higher levels.
- (iii) Higher National Diploma in Technology (Electrical and Electronics and Telecommunication Technology):
 - (a) to provide education and training facilities leading to Non-Professional Qualified Engineers (NPQE) for those engaged in work of a technical nature; and
 - (b) to provide a unified system of internal promotional/efficiency bar examinations for various Technical Departments/Corporations.

The preparation of lesson material was in the charge of a "National Consultant" who was usually a Professor or Head of a Department of a University. Most of the lesson writers too were drawn from Universities.

The methodology of teaching comprised the following:

- (i) lesson material prepared and sent by post at regular intervals;

- (ii) regular assignments based on lesson materials; these were evaluated and returned to students with comments;
- (iii) model answers sent to students with marked assignments;
- (iv) face-to-face teaching arranged once or twice a month at the Regional Centers in established Technical Institutes across the country;
- (v) seminars;
- (vi) short periods of concentrated practical training;
- (vii) use of pre-recorded cassettes, films and slides made available at selected Regional Centers; and
- (viii) a system of counselling.

Most of the four programs of study required practical and laboratory work. This face-to-face component of study was to take up about 10 per cent of the students' study time.

The programs offered by SLIDE were popular and the number of applicants far exceeded the places available. There were 11,000 applicants in 1976 and 16,000 applicants in 1977. Admission quotas were regulated to ensure admission of both employed and unemployed.

At the time SLIDE was absorbed by the newly established Open University of Sri Lanka, there were 4,892 students registered in the five programs as follows:

Management 1st and 2nd year	- 1,456
Mathematics 1st and 2nd year	- 1,219
Science	- 261
Electrical Technology	- 995
Electronics & Communication	- 961
Total	<u>4,892</u>

The course material was prepared with advice on how to write distance study material; a few seminars and training workshops were conducted to train writers of instructional material. Two-way communication between student and teacher as well as periodic assessment and assurance was ensured through the system of assignments and counselling. The practical component was ensured through the face-to-face and seminar sessions. The use of audiocassettes and slides provided further assistance to the learner.

SLIDE was just four years old when it was absorbed into the newly-created Open University of Sri Lanka. An observer drew the

following tentative conclusions on the operation of its programs of study:

- (i) Distance education techniques were more suited to middle level technical education, there being fewer students for full engineering programs and this factor was making distance education less cost-effective at this level. Also, the heavy component of practical work involved in full-fledged engineering programs made the face-to-face component of the program longer and consequently more suited for conventional type of teaching.
- (ii) Students following a technical program of study should preferably be employed in a profession of technical nature.
- (iii) The element of face-to-face teaching has to be larger than originally contemplated.
- (iv) The planning of technical courses needed relatively more thorough initial planning.
- (v) The amount of practical training involved was a critical factor to be taken into account.
- (vi) The cost of technical education from a distance is likely to be about four times higher than that of general education.

These tentative conclusions are indeed still relevant at OUSL which has a heavy Science and Technology component in its programs.

The External Services Agency of the former University of Sri Lanka was established in 1972 to provide for examinations for those not instructed in the University. The function was merely to register candidates for University courses and conduct examination for them. The entry requirements for these external candidates were more relaxed and open. The courses provided in universities such as Arts, Law, Science, Mathematics, Commerce and Education, were available to candidates. The last named education program was a post-graduate one leading to a Diploma which was conducted in collaboration with the Ministry of Education.

As noted earlier at the initial stages, no instruction was provided to those registered with ESA, except in the case of the post-graduate Diploma in Education program where material was written by academics of the Faculty of Education in collaboration with the Ministry specialists. In the latter stages of ESA (which was also absorbed into OUSL at its inception in 1980), and after a great deal of negotiations with the Sri Lanka Broadcasting Corporation, some radio programs were designed and aired for the benefit of the students. The following

are the numbers of registered students with ESA as compared with the numbers of students in universities as internal students.

	1975	1976	1977	1978
ESA	8,438	6,664	6,773	9,129
Internal	3,185	3,809	4,034	5,058

These figures are significant in that they indicate the demand for Higher Education among those failing to gain admission to established conventional universities.

DISTANCE EDUCATION: THE CURRENT PHASE

A. Free Education

Free education for all was adopted as a matter of state policy in the island in 1945 and this policy remains unchanged. Consequently, the demand for higher education kept on increasing. The expansion of conventional universities went on over the decades, and now there are eight universities of the conventional type distributed over the island: universities of Peradeniya, Colombo, Sri Jayawardenapura, Kelaniya, Moratuwa, Jaffna, Ruhuna and Eastern (see Map I).

Even though conventional universities expanded with consequent increases in the investments therein, they still could not cope with the increase in demand for higher education. Table 3, along with figures regarding the registrations with ESA, illustrates the inability of the conventional universities to cope with the demand for higher education. The Open University was set up to satisfy the needs of those who for some reason or other lost the opportunity to receive a higher education.

OUSL does not merely cater to those failing to gain admission to the conventional universities. It also provides continuing education to those who are already employed, as can be seen from the incorporation of SLIDE and ESA which catered not only to higher education but also to professional training of those already employed.

B. The Organizational Structure of OUSL

The administrative structure of OUSL is different from that of other universities. Its main policy-making body is the Council which controls finance and policy matters including academic. Its academic

TABLE 3: CLASSIFICATION OF ELIGIBLE* & ADMITTED STUDENTS ACCORDING TO THE FOUR MAJOR STREAMS

Year of G.C.E. (A/L) Exam Year of Admission Academic Stream		1981			1982			1983		
		1982/83			1983/84			1984/85		
		No. Eligible	No. Admitted	Percentage col. 4/3 x 100	No. Eligible	No. Admitted	Percentage col. 7/6 x 100	No. Eligible	No. Admitted	Percentage col. 10/9 x 100
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Arts	Total	1045	2253	20.40	8795	2147	24.41	8359	2018	24.06
	Female	6759	1126	16.66	5524	1129	20.44	5424	1074	19.80
Commerce & Management Studies	Total	11033	720	6.52	10386	904	8.70	4035	948	23.50
	Female	5570	269	4.83	5684	363	6.39	2077	392	18.87
Physical Science	Total	3452	1201	34.80	1974	1184	60.00	1592	1290	80.40
	Female	868	230	26.50	399	227	56.89	346	234	67.63
Biological Science	Total	6879	1154	16.77	5613	1228	21.88	3853	1324	34.38
	Female	3840	555	14.45	3085	545	17.67	2202	628	28.52
Total	Total	32409	5328	16.44	26768	5463	20.41	17839	5630	31.58
	Female	17037	2180	12.79	14692	2264	15.41	10049	2328	23.17

Notes: 1. *Number attaining the minimum requirement for admission.

2. Number admitted by UGC in columns (4), (7) & (10), respectively, is different from the number actually registered in the first year. Of the number admitted, a few might not have registered or enrolled in the Universities.

3. These are the most recently revised figures and may slightly differ from those given in Table I B (SEA) of the Statistical Handbook 1982.

Sources: Mark Books; Dept. of Examinations,
Admission Lists; UGC.

policy and function is determined at the primary level by two Boards of Study (viz. the Board of Study for Humanities, Social Sciences and Management and the Board of Study for Mathematics, Science and Technology). The purely administrative functions are under the charge of a registrar, while the educational services at the Regional Centers are overlooked by a Director of Regional Services. The bursar is in charge of the financial administration under the supervision of the registrar.

C. Programs of Study

The Board of Study for Humanities, Social Science and Management conducts the following programs of study:

- (i) Certificate in Pre-school Education - 1-year program
- (ii) Certificate in Entrepreneurship - 1-year program
- (iii) Certificate in Professional English - 1-year program
- (iv) LL.B. Degree Program - 4-year program
- (v) Post-graduate Diploma in Education - 2-year program

In addition, the Board of Study provides a support program in English for Science and Technology for the Board of Study for Mathematics, Science and Technology. A further course, English for Legal Studies, is also provided to service the LL.B. Degree Program.

D. Entry Requirements

The certificate programs provide for open entry with no entry qualifications asked from those seeking admission.

In the case of the LL.B. program, minimum entry requirements asked for in conventional universities, plus a number of other professional qualifications are admitted as adequate for entry. These qualifications are insisted upon because entry to the legal profession in Sri Lanka is regulated by the Council for Legal Education and the University wishes to satisfy their requirements for admission into the legal profession.

The Post-graduate Diploma in Education program is meant for the career development and promotion of graduate teachers in the teaching profession. Entry into this program is, therefore, limited to graduates within the teaching profession. A minimum of three years of teaching experience is required from graduate teachers. This program is designed to provide professional training to nearly 10,000 untrained graduate teachers in the school system of the Island.

The Board of Study for Mathematics, Science and Technology has a more streamlined structure of programs of study. The Board has a well-graded progression of programs as follows:

- (i) Foundations;
- (ii) Certificate;
- (iii) Diploma;
- (iv) Bachelor's Degree;
- (v) Post-graduate; and
- (vi) Continuing Education.

The Foundation courses are the gateway to the other programs of study. The areas of study offered in general sciences are:

- (i) Mathematics;
- (ii) Physics;
- (iii) Chemistry;
- (iv) Botany; and
- (v) Zoology

A combination of these subjects can be offered for the Degree of Bachelor of Science.

In the Technology area, the following programs are offered:

- (i) Civil;
- (ii) Communications;
- (iii) Electrical;
- (iv) Electronics;
- (v) Mechanical; and
- (vi) Textiles.

The current student enrollment in the programs of study of the two Boards of Study of OUSL is as follows:

(i) Pre-school Education	-	271	
(ii) Entrepreneurship	-	159	
(iii) Professional English	-	1,967	
(iv) Post-graduate Diploma in Education	-	1,388	
(v) Law (LL.B.)	-	554	(only for the 1st year)

(vi) Science Degree	- 1,487	(including Foundation Level)
(vii) Diploma in Technology	- 3,430	(including Foundation Level)
(viii) Engineering Degree	- 31	
Total	<u>9,287</u>	

E. Study System and Media of Instruction

1. Printed Material

The main medium of instruction is the printed course material. Course material is prepared by especially selected Course Teams from both within and without, and every effort is made to follow the principles of instruction technology for distance study in the preparation of course material.

2. Audio and Videotapes

Audiocassettes are used to some extent to supplement printed material, and video very much less. The radio and television are not used as a direct medium of instruction, even though OUSL does broadcast some general education material. Preliminary steps have been taken for the production of audio and videocassettes on a larger scale in the future. Since the academic staff has been trained in conventional universities, efforts have been and are being taken to keep the lesson writers informed and instructed in the appropriate use of print and electronic media through workshops, seminars and handouts.

3. Computers

Computers are not being used in instruction at present, and is as yet at an experimental stage of a medium of instruction.

4. Face-to-Face Teaching

Face-to-face teaching makes an important component of instruction. This is done through workshops, seminars and laboratory work, the scope and frequency of which is determined by the particular character and needs of a program of study (e.g. face-to-face instruction is most frequent in the Professional English program as language teaching requires a large element of interaction with the teacher).

5. Two-Way Communication

Assignments form an important element in the teaching process. They are marked and returned to students with comments. Assignments carry a component of marks in the final examination grade.

6. Regional Services

A system of regional centers and study centers helps to service the students in distant areas (see Map II). They serve both as resource centers and as places where face-to-face instruction is provided.

7. Ancillary Services

OUSL is presently being provided with a fully-equipped press, a publishing unit to handle the publishing aspects of instructional material, and an audiovisual unit to produce audio, video and other related material. Currently there is an acting director of Educational Technology under whom are the publishing and audiovisual units with responsibility, in addition, to develop appropriate educational technology with the help of academics qualified in the field of education. The establishment of a full-fledged institute of instructional technology is being seriously considered.

DISTANCE EDUCATION IN TEACHER TRAINING

The expansion of educational facilities since the introduction of free education in the Island has led to a phenomenal growth in the teacher population as can be seen from the table in the following page.

Until recently the minimum academic qualifications required of persons seeking to enter the teaching profession was the General

MAP II

REGIONAL & STUDY CENTERS OF THE OPEN UNIVERSITY



Certificate of Education (Ordinary Level). The required qualification is not upgraded to include passes in three subjects at the General Certificate of Education (Advance Level). Thus, new recruits to the teaching profession must have a minimum of 13 years of formal education. The system of teacher training was one of in-service training, and untrained

Year	Total	Graduate	Trained Teachers (Non-Graduates)	Others	Others* as a Percentage of Total
1965	89,643	5,399	32,062	52,182	58.2
1970	91,672	7,441	45,376	37,855	41.7
1975	99,067	10,916	56,876	31,275	31.6
1979	133,249	20,539	72,707	40,003	30.0
1985	143,314	28,996	82,952	31,366	21.8
1986	149,841	33,844	87,245	28,752	19.2

* The category 'Others' consists of untrained non-graduate teachers. Of the graduate teachers about 10,000 are untrained.

teachers in service were selected for admission to Teachers' Colleges which today number 18.

There are over 28,000 untrained non-graduate teachers with only G.C.E. Original Level and Advanced Level qualifications. The Ministry of Education has embarked on a program of training them through distance education methods. For this purpose the Ministry has set up a unit under a Director of Education, and has obtained aid from the Swedish International Development Assistance (SIDA). The program began in 1979 with courses for the training of school and regional administrators. The teacher training program has five components as follows:

- (i) Printed material supplemented by audiovisual material;
- (ii) Assignments;
- (iii) Contract lessons (monthly intervals);
- (iv) Local or Regional Centers; and
- (v) Practical training.

The Ministry program started by training the trainers. Personnel necessary for the infrastructure of a distance education establishment such as those involved in the production of course material, their layout, printing and distribution, tutoring and evaluation and examination work were trained. In these tasks the Ministry was assisted by specialists from Liber Hermods and the University of Lund. The inputs of these specialists have been most fruitful and they continue to be obtained.

The following courses of teacher education are currently being conducted for about 9,000 teachers:

- (i) Elementary Education;
- (ii) Mathematics Education for secondary level; and
- (iii) Science Education for secondary level.

PROBLEMS AND PROSPECTS

Distance education in Sri Lanka, first introduced to meet pressing educational and training needs, is now about 20 years old. However, the inadequate understanding of the concept at various levels beginning with the general public has been a hindrance to its further development. This factor is at least partly responsible for the inadequate funding made available for the development of an adequate infrastructure. This in turn makes it difficult for distance education institutions to serve their students as required. Hence, the prospects held out by distance education institutions as a solution to pressing large-scale educational institutions and training problems are not fully realized yet. However, steps are now underway to remedy this situation.

Training of educators is a serious problem. Most educators who come into distance education come with backgrounds in conventional education. Inculcating in them the concept and methodologies of distance education is a task to be undertaken if distance education institutions are to progress rapidly.

The electronic media are not adequately utilized in distance education and are presently used only sparingly or experimentally. Investment in the development of these media could immensely help in the tasks undertaken by the distance education institutions.

At OUSL there is a heavy bias in favor of Science and Technology in the structure of programs. This involves heavier expenditure and more complex teaching arrangements. Greater use of audio and video as well as computers, it is believed, could help overcome some of these financial and organizational problems.

Distance education offers solutions to the education of young hopefuls as well as those already employed. Opening avenues of obtaining a qualification for the young by developing new courses and programs can help the young. For those who obtain a qualification in the technical education system of the country as well as in the teacher education system OUSL could provide programs for further career development. For those with full professional qualifications like engineers and lawyers it could provide courses for updating their knowledge.

POSTSCRIPT

UNESCO's relationship with distance education goes back to at least 1969 when the International Council for Correspondence Education (ICCE) was affiliated to UNESCO as a non-government organization. Collaboration and cooperation between UNESCO and the successor organization of ICCE, the International Council for Distance Education (ICDE), has grown due to the common affinity of aims of the two organizations. As Wedemeyer wrote in 1978: "The cooperative activities of the past decade have no doubt influenced both ICCE and UNESCO. The purposes and functions of these organizations overlap and reinforce each other – in our joint concern for the improvement of educational opportunity worldwide, in our desire for equality of access to learning for all people, in our commitment to the improvement of the materials and methods of instruction – all in a framework recognizing the rights of all people to learn." (Charles A. Wedemeyer, "A Decade of Cooperation Between ICCE and UNESCO: Possibilities for the Future" in *Correspondence Education Dynamic and Diversified, Vol. I Advance Papers – Eleventh Conference*, New Delhi, India, 8–15 November 1978.)

UNESCO support for distance education in our region has grown since those words were written as can be demonstrated from some of the activities of UNESCO Regional Office for Education in Asia Pacific. UNESCO/ROEAP to the writer's knowledge has conducted the following seminars and workshops which has further helped to spawn national seminars and workshops in the region and brought forth useful publications: (i) Seminar of National Officials and Specialists in Distance Education held at Allama Iqbal Open University, Pakistan, 8–18 August 1983; (ii) Regional Training Workshop on the Development of Distance Education Instructional Material held at STOU, Thailand, 9–19 September 1985; and (iii) Regional Training Workshop on the Development, Use and Evaluation of Distance Education Broadcast Materials held at Allama Iqbal Open University, from 29 June to 7 July 1986.

In the Sri Lanka context UNESCO along with UNDP and the Swedish International Development Agency (SIDA) gave substantial support to SLIDE from 1976 onwards, i.e. from the very year of its inception. UNESCO has continued this support to the Open University of Sri Lanka from the time of its inauguration in 1980. In financial terms this support has amounted to \$1,320,000. This funding is mainly utilized from the purchase of laboratory and workshop equipment, audiovisual equipment, printing machinery, foreign and local consultants as well as

foreign and local research fellowships. There has also been a smaller SIDA support to OUSL amounting to approximately \$240,000. This support has been mainly utilized to support the teaching of basic sciences (Physics, Chemistry and Biology) and also some technology studies (Electrical and Electronics). Support to OUSL from the British Council has been minimal, being confined mainly to the Mathematics programs.

NOTES ON EDUCATIONAL STATISTICS

The population figures as of 1985 are estimated on the basis of the 1981 all island census (see *Sri Lanka Census of Population and Housing, All Island Tables*, Department of Census and Statistics, Colombo 1986). The estimate is based on the total population figure of 15,854,000 provided by the Department of Census and Statistics, and also the sex ratio of 104/100 and the urban rural percentages of 21.5 urban and 78.5 rural. The estimate of 1985 population by age group is based on the percentages obtained from 1981 figures for the different age groups.

Statistics regarding primary and secondary school children were obtained from the statistical unit of the Ministry of Education.

Abbreviations used in Appendix B:

CMB = University of Colombo

PDN = University of Peradeniya

SJP = University of Sri Jayawardenepura

KLN = University of Kelaniya

MOR = University of Moratuwa

JAF = University of Jaffna

RUH = University of Ruhuna;

BUC = Batticalao University College, now the Eastern University

DMB = Dumbura Campus of University of Peradeniya

F = Female

T = Total

EDUCATIONAL STATISTICS
(1985)

A. Population as of 1985

	All Age Groups	9-10 Yrs	11-17 Yrs	18-25 Yrs	26-45 Yrs	46 and Above
Total	15,854,000	943,769	3,101,036	3,334,337	5,208,096	3,266,762
Male	8,082,431	481,137	1,580,920	1,699,858	2,655,108	1,665,408
Female	7,771,569	462,632	1,520,116	1,634,479	2,552,988	1,601,354
Rural	1,244,539	740,859	2,434,313	2,617,455	4,088,355	2,564,408
Urban	3,408,610	202,910	666,723	716,882	1,119,741	702,354

B. Educational Institutions

Enrollment (1985)						
					Teachers	
					Trained	Undertrained
1. Primary Schools	<i>Number</i>	<i>Boys</i>	<i>Girls</i>	<i>Capacity</i>		
Total	2,211,457	1,143,597	1,067,860		82,952	31,112
Rural	] Not available					
Urban						
2. Secondary Schools						
Total	1,426,800	685,951	704,849			
Rural	] Not available					
Urban						
3. Degree Colleges						
Total	] Not found in Sri Lanka					
Rural						
Urban						
4. Universities						
General	]					
Technical						

5. Professional Colleges	Number	Boys	Girls	Capacity	Trained	Undertrained
Medical	]	1,642	623	1,019		
Engineering/Technology						
Teacher Training						
- Primary Teacher						
Training	]				No classification as	Primary and Secondary.
- Secondary Teacher						
Training						
6. Technical/Vocational	]					
Training Institutes						
Polytechnics						
Technical Training						
Centers						
Commercial Institutes	]				See Table 1 page 1.c supra.	No figures by sex available.
Vocational Training						
Institutes						
7. National Education/Training Institutes: 16 Teachers Training Colleges for in-service training; 6 Colleges of Education for pre-service training; 1 Unit of Distance Education for in-service training.						

Appendix B

UNDERGRADUATE ENROLMENT ACCORDING TO UNIVERSITY, ACADEMIC STREAM AND SEX: 1983/84 AND 1984/85

University & Academic Year		Academic Stream		Arts		Comm./Mgt. Studies		Law		Science		Medicine		Dental Surgery		Veterinary Science		Agriculture		Engineering		Architecture		Total	
				F		F		F		F		F		F		F		F		F		F		F	
CMB	83/84	557	989	208	429	146	322	252	640	382	857														
	84/85	543	959	236	460	172	392	273	638	445	960													1545	3237
PDN	83/84	610*	1215*					177	565	199	477	90	187	53	127	143	486	133	978						
	84/85	271	588	100	200			188	555	200	512	109	225	54	134	194	483	93	917					1405	4035
SJP	83/84	661	1343	527	1405			173	424															1361	3172
	84/85	645	1342	570	1468			130	350															1345	3160
KLN	83/84	881	1733	176	432			172	394															1229	2559
	84/85	829	1676	187	465			168	400															1184	2541
MOR	83/84																								
	84/85																			149	849	20	95	169	944
JAF	83/84	592	809	128	497			217	629	153	383													1090	2318
	84/85	582	804	179	573			237	595	140	337													1138	2309
RUH	83/84	197	337	50	132			92	224	123	281					79	144							541	1118
	84/85	214	339	90	226			157	349	161	384					83	161							705	1459
BUC	83/84							43	144															70	211
	84/85							48	131							27	67							86	213
DMB	83/84	418	902																					418	902
	84/85	311	638																					311	638
TOTAL	83/84	3916	7328	1089	2895	146	322	1126	3020	857	1998	90	187	53	127	249	697	282	1827	20	95			7828	18496
	84/85	3395	6346	1362	3392	172	392	1201	3018	946	2193	109	225	54	134	315	726	218	1702	30	89			7802	18217

* Includes Commerce Students

Table from Statistical Handbook 1984: Statistics in Higher Education in Sri Lanka (Colombo 1986).

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